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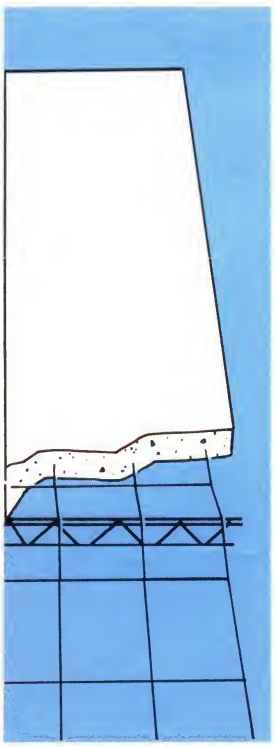

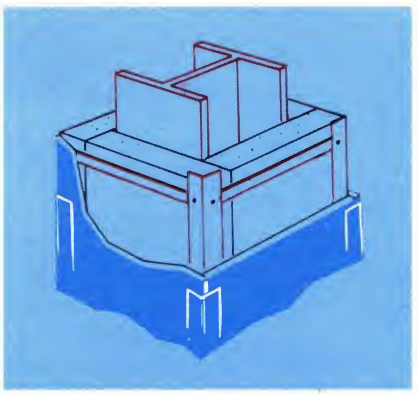

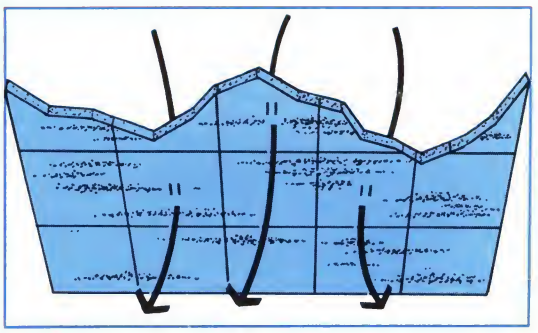

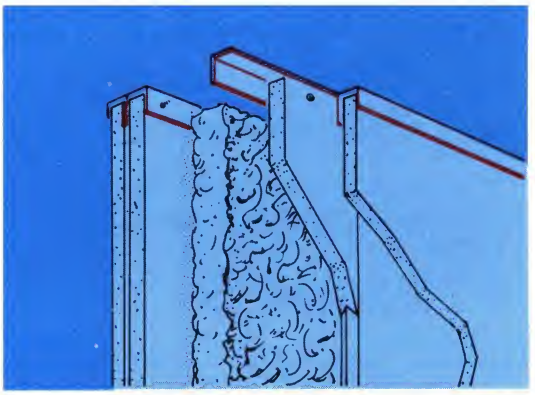

USG®

PARTITIONS & WALLS
CEILING SYSTEMS
ROOF ASSEMBLIES
FIREPROOFING

construction selector

1968-1

UNITED STATES GYPSUM

contents—U.S.G. technical information

This 24-page Selector is the first element, and the key reference index, in the U.S.G. Architectural Technical Literature series. Following is the sequence of other folders comprising the complete series. Folders marked "S" appear in the consolidated U.S.G. section in Sweet's 1968 Architectural File, Sec. 12a. Those marked "O" appear elsewhere in Sweet's files. Copies of all folders listed are available through U.S.G. representatives.

Partition Systems

Ceiling Systems—Air Distribution—Radiant Heating

(*Also see Partition folders for related ceiling systems*)

Roof Assemblies

Structural Fireproofing Systems

Exterior Walls & Furring Systems

(*Also see Partition folders for related wall furring systems*)

Building Product Catalogs

Industrial Metal Catalogs

Numbering System: the System Folders and Product Catalogs are arranged in numerical sequence, as listed above. Those bearing an "8" as the last digit of the title number are new 1968 folders replacing any previous edition bearing the same first three digits. Folders with title numbers ending in "7" which have not been replaced were published in 1967 but are still current and unchanged. All Industrial Metal Catalogs are new 1968 editions.

*Reg. U.S. Pat. Off. †T.M. of Vaughan Interior Walls, Inc.

index—products and systems

(References listed are *principal* source of information in U.S.G. Architectural Technical Literature series—repetition or additional data may occur in other folders)

this construction selector

summarizes the many effective systems of partitions, ceilings, roof assemblies, column and beam fireproofing, wall furring and exterior facings that can be constructed with United States Gypsum quality-tested building products. It is intended to serve as a general guide for the initial comparison and selection of the optimum systems for your project, and as an index to the specification folders providing full data on each system.

Organized for efficiency of use, complete technical information hereby is presented *according to the end result desired by the architect.* Functional criteria on all major U.S.G. construction systems are isolated for quick comparison. Data needed for take-off and specification are presented in separate folders for each system—all consolidated in a single, easy-to-use reference package.

how to use it

The Selector is divided into five sections—A to E—covering the system categories indicated at the right. Within each section are listed brief analyses of major variations of each system, as documented by fire or sound tests, federal specifications or ASTM designations. They are arranged sequentially according to fire ratings—the criterion that most often governs selection.

These analyses are organized to locate the criteria desired at a glance. In Sections A and B, covering partitions and ceilings, all information appears under eight column headings as follows:

fire rating	description	test no.	stc rating		relative cost index	comments	folder reference
			11-f	16-f			

In sections C, D and E—roof assemblies, fireproofing and exterior walls—certain of these columns are not applicable and are omitted. See pages 5 and 6 for explanations of data appearing in these columns—fire and sound ratings, relative costs, and abbreviations used.

The analyses applicable to each system, as listed here in all five sections of the Selector, are repeated in the individual folder covering that system, indicated by number in the "Folder Reference" column. Full information, details and specifications on the selected constructions also are available in the folders.

A sixth group of folders, listed here under Section F, consists of U.S.G. Product Catalogs, covering details of the U.S.G. components and accessories used in the systems, including general specifications.

Designers have realized full benefit from this literature by first studying the complete series of folders, then returning to the Selector for comparing system characteristics and locating specific information.

partitions—pages 7 to 14—are described in some 91 analyses of construction variations used in fire and sound tests, cross-referenced to 22 individual Systems Folders. Partition types include solid and laminated without studs, metal and wood-framed, and movable—in plaster and lath, drywall and gypsum tile.

a

ceilings—pages 15 to 20—are described with companion floor or roof construction, in 74 analyses of tested variations, and in ten individual Systems Folders. Included are suspended, furred and direct-attachment types, employing plaster and lath, drywall, and mineral fiber tile or panel surfaces. Air distribution and radiant heating systems also are offered.

b

roof assemblies—page 20—are covered in seven analyses of tested variations, and in two Systems Folders detailing poured gypsum decks, available with integral ceilings, and the prefabricated gypsum plank type.

c

structural fireproofing—page 21—presents the basic methods of protecting columns and beams, described in 22 tested variations and in four separate Systems Folders. Types covered are metal lath and plaster, gypsum lath and plaster, gypsum tile, and gypsum drywall.

d

exterior walls and furring—page 22—compares some 15 methods of furring exterior walls, with details shown in various folders throughout the series. Five special "e" folders cover two drywall furring systems, metal stud curtain walls, exterior stucco construction, and expanded metal fascia walls.

e

product catalogs—listed and indexed on page 22—occupy a separate section of some 80 pages in ten folders presenting complete data on components and accessories used in U.S.G. construction systems. Subjects: gypsum plasters, plaster bases, gypsum wallboard, joint treatment, sheathing, insulating wool, paint products, sound control products, asphalt roofing, and mason's lime.

f

Federal specification and ASTM designation qualifications of USG products are listed here on page 23.

fire and sound tests

interpreting data

Test data are used to compare, to select, and to specify materials and systems, and frequently to secure code or agency acceptance. Therefore, the data obtained cannot be compared or used without a full understanding of their source and meaning.

In comparing any two sets of test data, one must be certain they were obtained under circumstances and by test procedures that were identical or nearly identical. Particularly in the case of acoustical laboratories, test methods are subject to change. This can necessitate the use of a correction factor for tests conducted before or after a certain date.

Unfortunately, a whole fabric of myth has been built up within the building industry whereby certain numbers have become magic criteria. In too many laboratory tests, variations in components from normal production runs, in densities or conditions of materials as applied, and other variations have been undetected or incompletely reported. This has allowed some overzealous producers to use test reports in promoting systems which they know to be not representative of factual information or actual job results.

Don't believe or accept any numbers from any source until the entire test procedure is described and the testing agency is identified. If possible, insist upon using only such data as is provided by recognized agencies operating under ASTM or ASA procedures, and even then have the data interpreted and translated into meaningful information by competent experts.

Both fire and sound ratings are based on specific details of assembly which if not followed may directly affect the result. Caulking installed at the perimeter of partitions and along runner tracks, for example, is standard practice in all current sound testing. Any deviation in construction from that described in the test report, therefore, should be carefully considered in advance.

sound tests

Partitions and floor-ceiling assemblies are acoustically rated by comparing their airborne sound transmission loss test curve with a "Standard Contour" based upon a known subjective response to noise.

The standardized test procedure, ASTM E90-66T, specifies that the random noise transmission loss (TL) be measured at one-third octave intervals (16 frequencies) and matched to standard contours known as *Sound Transmission Class* (STC) curves. The procedure allows an average deviation below an STC curve of 2db with a maximum of 8db at any measuring frequency. The STC is determined by the abscissa at the intersection of the contour line and the 500Hz ordinate.

In U.S.G. test analyses shown in this Selector and individual Systems Folders, STC ratings for assemblies tested prior to 1966 are listed in the column headed 11-f. Generally variations of only 1 or 2 STC have been found between ratings based on E90-66T and E90-61T. The exception may be assemblies with strong coincident areas such as the solid line shown in chart at right.

Fig. 1 illustrates how the Sound Transmission Class is determined for tests which measure the transmission

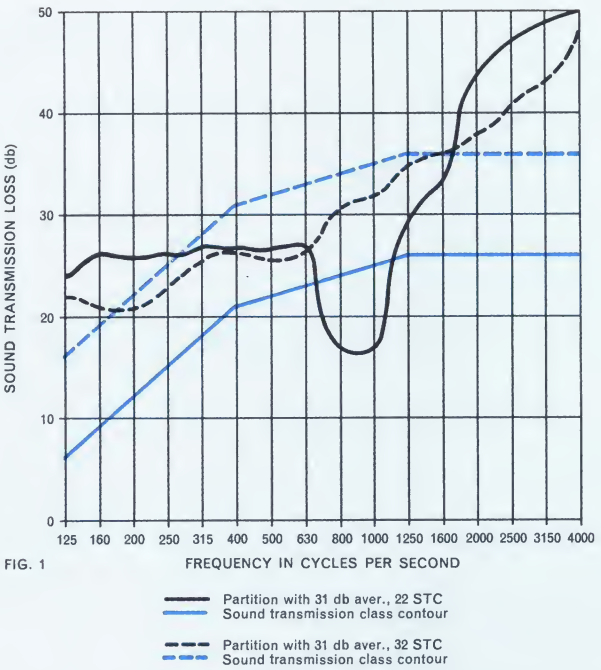

FIG. 1

loss at 16 frequencies. A partition whose TL is represented by the solid line curve has an average loss of 31db with an STC of 22. The class here is limited by a maximum deviation of 8db. The partition represented by the dotted line also has a 31db average, but is limited by the average deficiency criterion explained above. The rating of the second partition is 32 STC.

The FHA Bulletin 750 *Impact Noise Rating* (INR) designates the ability of a floor-ceiling construction to resist impact sound transmission. INR is measured on a plus or minus scale in relation to the standard performance curve INR=O. The higher the positive number, the better the assembly resists impact sound transmission.

fire tests

A *Fire Resistance Rating* denotes the length of time a given partition or ceiling and floor or roof assembly can resist passage of intense heat and flames, while supporting the imposed design loads. Fire ratings are correlated with all components of a given assembly—not with the ceiling or partition membrane alone.

While architects are concerned that the materials or systems specified meet the building code requirements, the structure is not apt to receive a critical test to substantiate the fire-resistance performance of the material or system selected. The architect, however, usually is not in a position to question the validity of a test by a qualified laboratory accepted by the building commissioner.

Fireproofing, as well as certain other fire-rated constructions, should be selected by specification writers only after carefully reading the test report and comparing with the manufacturer's data. Field inspectors cannot be expected to detect discrepancies in application if all the steps are not spelled out in the specifications.

In addition to the assemblies documented by laboratory fire tests listed in this Selector, local code approvals have been obtained on other U.S.G. system variations. Information is available from U.S.G. representatives.

abbreviations

In the test analyses following, the abbreviation "*est*" in the Fire and Sound Rating columns indicates *estimated;* the abbreviation *N/A* indicates *not applicable* or *not available.* Other abbreviations are classified by columns where they appear:

Description and Comments

acoust	acoustical	horiz	horizontally
adj	adjacent	htg	heating
alt	alternate	ins	insulating
alum	aluminum	install	installation
ann	annular	lamin	laminated
appl	applied	mach	machine
att	attached	max	maximum
atten	attenuation	met	metal
betw	between	min	mineral or minimum
bd	board	mov	movable
blkts	blankets	nom	nominal
blt	built	o.c.	on center
bvld	beveled	opp	opposite
cell	cellular	oz	ounce
cem	cement	partn	partition
chan	channel	pcs	pieces
clg	ceiling	perf	perforated
col	column	perim	perimeter
com	common	pl	plaster
compd	compound	plywd	plywood
conc	concrete	prot	protected or protection
constr	construction	qtr	quarter
corebd	coreboard	recom	recommended
corrug	corrugated	reinf	reinforcement
cov	covered	resil	resilient
cr	cold rolled	run	runner(s)
ctd	coated	sec	section
dbl	double	sep	separate
dead	deadening	separ	separated
dens	density	sf	self furring
diag	diagonal	sheathg	sheathing
dir	direct	slot	slotted
distr	distribution	sm	smooth
dm	diamond mesh	spec	special
ea	each	sq	square
elect	electrical	stag	staggered
excl	excluding	stl	steel
exp	exposed	susp	suspended
ext	exterior	syst	system
fab	fabric	surf	surface
fed spec	federal specifications	td	tied
fin	finish or finished	text	texture
fireprfg	fireproofing	thickn	thickness
fixt	fixture	treat	treatment
flr	floor	unexp	unexposed
formbd	formboard	unfin	unfinished
fur	furring	vert	vertically
ga	gauge	wallbd	wallboard
galv	galvanized	wd	wood
hex	hexagonal	wf	wide flange
hol	hollow	wt	weight (lbs./sq. ft.)

Plaster mixes are given by weight in lbs., aggregates by volume in cu. ft.

Test No.

incomb	incombustible	MLA	Metal Lath Association
Des	Design	NBFU	Natl. Bd. Fire Underwriters
GA	Gypsum Association	ASTM	Amer. Soc. Testing Materials
IBI	Insulation Board Institute	USG	United States Gypsum

The recognized laboratories which performed the tests are noted by abbreviation as follows:

Fire (f)	Sound (s)
BMS—National Bureau of Standards	NBS—National Bureau of Standards
UL—Underwriters' Laboratories, Inc.	TL—Riverbank Acoustical Laboratories
OSU—Ohio State University	G & H—Geiger & Hamme
FPRI—Fire Protection Research Institute	CK—Cedar Knolls Acoust. Laboratories
U of C—University of California	WEAL—Western Electro-Acoust. Lab.

Reports of tests listed here may be requested by number from United States Gypsum, Architectural Services Dept., 101 S. Wacker Dr., Chicago 60606.

Sound Rating

stc	sound transmission class	9-f	9-frequency average
11-f	11-frequency stc	INR	impact noise rating
16-f	16-frequency stc	db	decibel

relative cost data

The "Relative Cost Index" in the test analyses following is intended only as a tentative guide to assist the architect in a preliminary investigation of construction assemblies.

The Index figures provide an approximate relation of similar assemblies to one another. For example, a partition with a cost index of 168 should cost approximately 32% more than a partition with a cost index of 125. There is no basis for relating a partition construction to a ceiling assembly, column fireproofing or roof assembly.

Cost data for final consideration or budget purposes should be obtained by the architect in his own immediate market, on the project under construction. Costs inevitably vary, market by market, depending on the availability of materials, construction practices, and the size and type of structure under consideration.

selector guide sound-rated partitions

(See pages 8 to 14 for assemblies numbered as below)

STC range	drywall assemblies	plastered assemblies
55-60	11, 12, 19, 20	3, 86
50-54	13, 14, 21, 22, 25, 64, 77, 78, 79, 80	4, 5, 27, 30, 31, 36, 37, 52, 53, 55, 87, 88
45-49	15, 23, 65, 66, 71, 72, 76, 81, 82, 89	6, 38, 39, 40, 41, 56
40-44	67, 69, 73, 90, 91	1, 8, 42, 43, 44, 45, 57, 58, 60, 61, 62
35-39	68, 74, 75, 83, 84	46, 47, 48, 63

upgrading partition performance

THE INITIAL STAGE of a unique long-range research program, which will foster a major breakthrough in acoustics, has been completed by United States Gypsum. The program seeks out the "why" and "how" of partitions and their part in on-the-job acoustical privacy.

Usually the architect only selects a partition system which has been tested and achieved a high "STC" rating in the laboratory, and prepares corresponding details and specifications to be followed by the partition contractor. Unfortunately, the acoustical performance indicated by the laboratory test can be lost between the architect's drawing board and the completed partition. This has been the case in many projects.

U.S.G. research work has proven that a partition can be built in three different ways on-the-job, and that each produces a different acoustical value. They can be defined as:

(1) *Normal:* both the building structure and partitions between units are designed and built without considering acoustical performance.

(2) *Select:* the structure is, again, designed and built normally. But partitions are selected and built according to acoustical details used in the laboratory when the assembly was tested.

(3) *Pre-design:* the building structure is designed and constructed with special acoustical details to prevent sounds from flanking a partition in addition to those used previously in the laboratory. Most important of these details are provisions for proper perimeter relief, and caulking of openings and perimeter joints.

The caulking used should be the resilient, non-hardening, non-skinning type. This is the best material known to maintain a partition's sound resistance and to seal against sound leaks. Gasketing alone is not as effective. So critical to sound isolation is proper caulking that if it is not to be used, the architect is advised to choose the lowest-cost partition available and expect minimum performance. Higher-cost partitions, without caulking, will not yield proportionate improvement.

Careful attention to detail is secret of best sound isolation.

Partitions recommended for apartment construction are an example of the variations in performance found in the U.S.G. study. For each assembly listed below, comparative values are shown resulting from "normal", "select", or "laboratory" installation methods. The "laboratory" results are closely approximated by use of the "pre-design" methods outlined above. The "best buys" among partition types are indicated by the cost index, which is based on a value of 100 for basic 2″x4″ wood frame construction, studs 16″ o.c. and ½″ gypsum wallboard facings on each side. Numerals in blue identify similar assemblies in the test analyses following on pages 8 to 14.

GARDEN TYPE APARTMENT ASSEMBLIES	STC comparison	cost index	
2″x4″ wood studs, RC-1 SHEETROCK resilient channel one side, 3″ THERMAFIBER insulation, single ⅝″ SHEETROCK wallboard on each side	Laboratory 50 to 54 Select 45 to 49 Normal 35 to 39	150 136	78
Staggered 2″x3″ wood studs on double plates, 2″ THERMAFIBER insulation between studs in one row, single ⅝″ SHEETROCK on "out" sides	Laboratory 50 to 54 Select 45 to 49 Normal 35 to 39	163 149	79
Staggered 2″x3″ wood studs on double plates, ½″ USG sound deadening board base; ⅝″ SHEETROCK both sides	Laboratory 50 to 54 Select 45 to 49 Normal 35 to 39	186 172	77
HIGH-RISE APARTMENT ASSEMBLIES	**STC comparison**	**cost index**	
Double-solid SHEETROCK wallboard, 1½″ THERMAFIBER sound attenuation blanket in 3″ cavity between coreboards	Laboratory 60 Select 55 to 59 Normal 45 to 49	190 176	11
3⅝″ USG metal studs, 1½″ THERMAFIBER sound attenuation blanket, double ⅝″ SHEETROCK on each side	Laboratory 50 to 54 Select 45 to 49 Normal 40 to 44	188 174	19
2½″ USG metal studs, 1½″ THERMAFIBER sound attenuation blanket, double layer ½″ SHEETROCK each side	Laboratory 50 to 55 Select 45 to 55 Normal 40 to 44	175 161	21
2½″ USG metal studs, 1½″ THERMAFIBER blanket, single layer ½″ SHEETROCK wallboard one side; double layer other side	Laboratory 50 to 54 Select 45 to 49 Normal 40 to 44	156 142	64
2½″ USG metal studs, 1½″ THERMAFIBER sound blanket, double ⅝″ IMPERIAL plaster base, ⅛″ IMPERIAL plaster both sides	Laboratory 50 to 54 Select 45 to 49 Normal 40 to 44	194 180	31
4″ PYROBAR gypsum tile, ⅝″ plaster one side, USG R-5 resilient clips, ⅜″ ROCKLATH plaster base & plaster other side	Laboratory 50 to 54 Select 45 to 49 Normal 35 to 39	192 178	4
2½″ TRUSSTEEL stud, ROCKLATH and plaster, resilient clips one side; 1½″ THERMAFIBER blanket	Laboratory 50 to 54 Select 45 to 49 Normal 35 to 39	164 150	37
Double-solid IMPERIAL plaster system, 3″ cavity between coreboard, 2″ THERMAFIBER sound attenuation blanket	Laboratory 50 to 54 Select 45 to 49 Normal 40 to 44	192 178	27

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
		4-hour rated partitions						
		PLASTERED ASSEMBLIES						
		MASONRY TYPE						
1	4 hrs.	Gypsum Tile & Plaster—4" hol PYROBAR tile—⅝" 100:3 gypsum sand plaster wt 26 width 5¼"	T-118-35&36-OSU (f) NBS-305 F44 (s)	42		159	Excellent fire protection —good plaster base	a-1168
2	4 hrs.	Gypsum Tile & Plaster—6" hol PYROBAR tile—⅝" 100:3 gypsum sand plaster one side only wt 28 width 6⅝"	T-26-1-OSU (f)	N/A		139	Excellent fire protection, low dead load	a-1168
		3-hour rated partitions						
		PLASTERED ASSEMBLIES						
		MASONRY TYPE						
3	3 hrs. est	Gypsum Tile & Plaster—3" hol PYROBAR—2x2 wd fur 16" o.c. vert—1½" THERMAFIBER sound atten blkts betw fur—R-5 resil clips att to wd fur—⅜" ROCKLATH pl base—½" gypsum sand plaster one side & opp side ⅝" direct—perimeter caulked wt 22.5 width 6½"	USG-123-FT-G&H (s) Field Test KSO-1090072-f (s)	55	51	202	Excellent sound & fire resistance. No outlets in 123-FT test; two caulked outlets in field test	a-1158
4	3 hrs. est	Gypsum Tile & Plaster—4" hol PYROBAR—R-5 resil clips—⅜" ROCKLATH pl base—½" gypsum sand plaster one side & opp side ⅝" direct—perimeter caulked wt 27 width 6"	USG-110-FT-G&H (s) Field Test KSO-1090072-e (s)	50	47	178	Good attenuation. No outlets in 110-FT; two caulked outlets in field test	a-1158
5	3 hrs. est	Gypsum Tile & Plaster—3" hol PYROBAR—R-5 resil clips—⅜" ROCKLATH pl base—½" gypsum sand plaster one side & opp side ⅝" direct wt 24 width 4⅞"	TL-60-127 (s)	52		178	Excellent fire resistance—reduces sound leaks & flanking paths	a-1158
6	3 hrs. est	Gypsum Tile & Plaster—3" hol PYROBAR—#500 resil clips—¾" cr chan & 3.4# dm met lath—¾" gypsum sand plaster one side & opp side ⅝" direct wt 27 width 5¼"	NBS-313 (s)	46		195		a-1158
7	3 hrs.	Gypsum Tile & Plaster—4" hol PYROBAR tile—⅝" 100:3 gypsum sand plaster one side only wt 20 width 4⅝"	T-118-29&30-OSU (f)	N/A		124		a-1168
8	3 hrs.	Gypsum Tile & Plaster—3" hol PYROBAR—⅝" 100:3 gypsum sand plaster wt 23 width 4¼"	T-26-5-OSU (f) NBS-304 (s)	40		154	Incombustible—good plaster base—economical	a-1168
9	3 hrs.	Gypsum Tile—3" solid PYROBAR—unplastered wt 16 width 3"	T-26-3-OSU (f)			91	Excellent fire protection for weight & cost	a-1168
10	3 hrs.	Gypsum Tile & Plaster—3" hol PYROBAR—⅝" 100:3 gypsum sand plaster one side only wt 17 width 3⅝"	T-1315-OSU (f)			118	Good protection for chase walls, vent & elevator shafts	a-1168
		2-hour rated partitions						
		DRYWALL ASSEMBLIES						
		LAMINATED & SOLID TYPES						
11	2 hrs.	Double Solid Drywall—½" SHEETROCK gypsum wallbd lamin ea face to two rows of 1" USG gypsum corebd spaced 3" apart—1½" THERMAFIBER sound atten blkts stapled to back of one row—stl runners—joints fin—perimeter caulked wt 13 width 6"	UL Des 26-2 hr (f) USG-96-FT-G&H (s) Field Test KSO-109006-c (s)	60 56	55	165	Fire rating also applies without wool. Outstanding sound isolation at low cost	a-1078
12	2 hrs. est	Triple Solid Drywall—½" SHEETROCK gypsum wallbd—3 rows of 1" USG gypsum corebd ea spaced min 1⅛" & 1½" apart—1½" THERMAFIBER sound atten blkts att to back of one outer row—wallbd lamin & screw att to outer rows—stl runners—joints fin—perimeter caulked wt 17 width 6¼"	USG-94-FT-G&H (s)	59		210	Septum improves resistance against sound leaks on job	a-1078
13	2 hrs. est	Triple Solid Drywall—½" SHEETROCK gypsum wallbd—3 rows of 1" USG gypsum corebd ea spaced 1⅛" apart—wallbd lamin & screw att to outer rows—stl runners—joints fin—perimeter caulked wt 17 width 6¼"	USG-95-FT-G&H (s)	53		195	Among best laminated drywall party walls in 50-54 stc range	a-1078

fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
2 hrs.	418 Gypsum Ribwall—2 layers ⅝" SHEETROCK FIRECODE gypsum wallbd ea side—1"x6" gypsum ribs 24" o.c. lamin betw base layers—wallbd screw att—joints fin wt 12 width 4⅛"	UL Des 17-2 hr (f) TL-63-15 (s)	 51		 165	Has design flexibility for pipe chase or party walls	14 a-1068
2 hrs.	Double Solid Drywall—½" SHEETROCK gypsum wallbd—two rows of 1" USG gypsum corebd spaced 1⅛" apart—wallbd lamin & screw att ea face—stl runners—joints fin—perimeter caulked wt 13 width 4⅛"	T-1310-OSU (f) USG-13-FT-G&H (s)	 46		 150	Excellent, versatile—best value in 45-49 stc range	15 a-1078
2 hrs.	Solid Drywall—½" SHEETROCK FIRECODE "C" gypsum wallbd faces ea side over 1" USG gypsum corebd—face layers lamin—joints stag & fin—USG #218 track at flr—½" met trim at sidewall/clg wt 8 width 2"	T-1339-OSU (f)	N/A		120		16 a-1048
2 hrs. est	Solid Drywall—⅝" SHEETROCK FIRECODE gypsum wallbd faces ea side over 1" USG gypsum corebd—face layers lamin—joints stag & fin wt 9 width 2¼"	TL-59-98 (s)	34		124		17 a-1048
2 hrs.	Solid Drywall Vent Shaft—⅝" SHEETROCK FIRECODE gypsum wallbd faces ea side over 1" USG gypsum corebd—face layers lamin & screw att—joints stag & unfin—⅞"x1⅜" angle runners horiz at flr clg & qtr points wt 9 width 2¼"	UL Des 21-2 hr (f)	N/A		124		18 a-1048
METAL FRAMED TYPE							
2 hrs. est	Met Stud—2 layers ⅝" SHEETROCK FIRECODE "C" gypsum wallbd ea side—3⅝" USG studs 24" o.c.—base layer screw att—face layer lamin—1½" THERMAFIBER sound atten blkts—joints fin—perimeter caulked wt 12 width 6⅛"	USG-109-FT-G&H (s) Field Test KSO-109006-a (s)	53 55	 54	 176	Highest stc value of metal stud drywall party walls tested	19 a-1208
2 hrs. est	Met Stud Chase Wall—2 layers ½" SHEETROCK FIRECODE "C" gypsum wallbd ea side—1⅝" USG studs 24" o.c. in 2 rows spaced 6¾" apart—½" wallbd gussets spanning chase att to studs at qtr points—wallbd appl vert & screw att—1½" THERMAFIBER sound atten blkts one side—joints stag & fin—perimeter caulked wt 11 width 12"	USG-134-FT-G&H (s)	55		189		20 a-1208
2 hrs.	Met Stud—2 layers ½" SHEETROCK FIRECODE "C" gypsum wallbd ea side—2½" or 3⅝" USG studs 24" o.c.—1", 1½" or 2" THERMAFIBER sound atten blkts stapled—wallbd appl vert & joints stag—base layer screw att—face layer strip lamin with Type G screws betw studs—joints fin—perimeter caulked wt 10 width 4½"	UL Des 28-2 hr (f) USG-114-FT-G&H (s)	 54		 173	Best value of drywall metal stud party walls in 50-54 stc range	21 a-1208
2 hrs. est	Met Stud—⅝" SHEETROCK FIRECODE gypsum wallbd—3⅝" USG studs 24" o.c.—2 layer—base layer ½" USG min fiber sound dead bd ea side screw att—wallbd face layer lamin & screw att—joints stag & fin—perimeter caulked wt 8 width 5⅞"	USG-103-FT-G&H (s) Field Test KSO-109006-b (s)	52 50	 52	 186		22 a-1208
2 hrs.	Met Stud—2 layers ⅝" SHEETROCK FIRECODE gypsum wallbd plain or vinyl faced ea side—3⅝" USG studs 24" o.c.—base layer screw att—face layer lamin or screw att—joints fin or unfin—perim caulked wt 12 width 6⅛"	UL Des 11-2 hr (f) TL-60-113 (s)	 46		 157	Excellent for corridors	23 a-1208
2 hrs.	Met Stud—2 layers ½" SHEETROCK FIRECODE "C" gypsum wallbd—1⅝" USG studs 24" o.c.—2 layers ea side vert appl & screw att joints fin wt 9 width 3⅝"	U of C 6-15-65 (f)	N/A		156	Most economical 2-hour metal stud drywall partition	24 a-1208
MOVABLE TYPE							
2 hrs.	Mov VAUGHAN WALLS pre-chased dbl sound wall—spec ⅝" USG gypsum wallbd face panels lamin to ⅝" gypsum core strips placed to form panel joints—2 rows 1⅞" thick spaced 1½" or 3" apart—alum trim wt 13 width 5⅛" or 6"	UL Des 24-2 hr (f) TL-65-72 (s) TL-64-189 (s)	 50 45	 52	 250 230	Ideal for library, conference rooms. 50 stc based on 6" width with wool; 45 stc on 5⅛" width without wool	25 a-1298
WOOD FRAMED TYPE							
2 hrs.	Wd Stud—2 layers ⅝" SHEETROCK FIRECODE or W/R FIRECODE "C" gypsum wallbd—2x4 16" o.c.—base layer 6d nails 6" o.c.—face layer lamin to base—joints fin wt 12 width 6⅛"	UL Des 4-2 hr (f)	N/A		161	Basic 2-hour partition constr.	26 a-1398

2-hour rated partitions (continued)

PLASTERED ASSEMBLIES

SOLID TYPE

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
27	2 hrs.	Double Solid Gypsum—½" IMPERIAL plaster base & veneer plaster—pl base strip lamin & att with Type G screws to 1" USG gypsum corebd—met angle runners at flr & clg 1⅛" to 3" apart—2" THERMAFIBER sound atten blkts stapled to corebd one side—1/16" IMPERIAL plaster—joints taped—perimeter caulked wt 13 width 6⅜"	UL Des 26-2 hr (f) Field Test KSO-1090072-d (s)	54	54	178	Fire rating also applies without wool	a-1148
28	2 hrs. est	Solid Gypsum—⅝" IMPERIAL plaster base & veneer plaster—pl base lamin ea face to 1" USG gypsum corebd—met angle runners at flr & clg—joints stag & taped—1/16" IMPERIAL plaster wt 10 width 2½"	TL-63-208 (s)	34		135		a-1148
29	2 hrs.	Chan Stud—Solid Metal Lath & Plaster—¾" cr chan 16" o.c.—3.4# dm met lath—STRUCTO-LITE (Type R) plaster wt 12 width 2½"	UL Des 19-2 hr (f)	N/A		137	2-hr. rating also obtainable with 2" of wood fiber plaster	a-1028

METAL FRAMED TYPE

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
30	2 hrs.	Met Stud—2 layers ⅝" IMPERIAL plaster base Type X & veneer plaster—3⅝" USG met studs 24" o.c.—base layer screw att—face layer lamin—joints taped —1/16" IMPERIAL plaster wt 12 width 6⅜"	UL Des 11-2 hr (f) TL-63-177 (s)	50		174	Excellent for corridors; sound performance based on perimeter caulking	a-1148
31	2 hrs.	Met Stud—2 layers ½" IMPERIAL plaster base & veneer plaster—2½" USG met studs 24" o.c.—run track gasketed & caulked—base layer screw att—face layer strip lamin 24" o.c. & att with Type G screws betw studs—2" THERMAFIBER sound atten blkts att one side—1/16" IMPERIAL plaster—perimeter caulked wt 10 width 4⅝"	UL Des 27-2 hr (f) CK 654-66 (s) USG-127-FT-G&H (s) Field Test KSO-1090072-a (s)	52 48	53 49	183	CK 654-66 based on 2 layers Type X base screw-attached and 1" THERMAFIBER blankets; fire test same construction without wool	a-1148
32	2 hrs.	Stl Stud—Metal Lath & Plaster—2½" TRUSSTEEL studs 16" o.c.—3.4# dm met lath—¾" 100:1 gypsum wood fiber sand plaster wt 17 width 4¼"	UL-R4024-9-b (f)	N/A		210	Excellent fire performance; highly abrasion resistant	a-1178
33	2 hrs.	Stl Stud—Gypsum Lath & Plaster—2½" TRUSSTEEL studs 16" o.c.—⅜" perf ROCKLATH—¾" 100:2-100:2 gypsum perlite plaster wt 11 width 5"	T-1813-GA-OSU (f)	N/A		132	Excellent fire rating at a low cost	a-1188

WOOD FRAMED TYPE

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
34	2 hrs.	Wd Stud—Gypsum Lath & Plaster—2x4 16" o.c.—⅜" perf ROCKLATH nailed 5" o.c.—hex wire mesh nailed 8" o.c. over face of lath & held 5/16" away from face—1" 100:2½ gypsum perlite plaster wt 12 width 6⅜"	T-961-OSU (f)	N/A		195		a-1368

1½-hour rated partitions

DRYWALL ASSEMBLIES

SOLID TYPE

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
35	1½ hrs.	Solid Drywall—½" SHEETROCK gypsum wallbd faces ea side over 1" USG gypsum corebd—face layers lamin—joints stag & fin—1" sq wd runner wt 8 width 2"	T-1175-OSU (f)	N/A		105		a-1048

1-hour rated partitions

PLASTERED ASSEMBLIES

METAL FRAMED TYPE

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
36	1 hr.	Stl Stud—Resil Metal Lath & Plaster—TRUSSTEEL studs—#400 resil clips—¼" pencil rods—3.4# dm met lath—¾" 100:2-100:3 gypsum sand plaster—perimeter caulked wt 19 width 5¾"	T-1263-OSU (f) CK 664-5 (s)		50	180	CK 664-5 based on 3¼" studs, resilient clips both sides	a-1178
37	1 hr. est	Stl Stud—Resil Gypsum Lath & Plaster—3¼" TRUSSTEEL Studs 16" o.c.—2" THERMAFIBER sound atten blkts—TR-1 clips one side & TL-1 clips opp side—⅜" ROCKLATH—½" 100:2-100:2 gypsum sand plaster—perimeter caulked wt 14 width 5½"	USG-125-FT-G&H (s) CK-664-38 (s) GA-2-3-4-FT-G&H (s) Field Test KSO-1090072-b (s)	49 50 47	52 46	150	Est. fire rating and CK-664-38 based on perf. ROCKLATH. 2 caulked outlets on ea. side in field test	a-1188

fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference	
1 hr.	Stl Stud—Resil Gypsum Lath & Plaster—2½" TRUSSTEEL studs 16" o.c.—TR-1 clips—⅜" perf ROCKLATH—½" 100:2 gypsum sand plaster—perimeter caulked wt 13 width 5"	UL Des 24-1 hr (f) Field Test KSO-1090071-b (s)	48	48	138	Sound test with 6 caulked outlets on 2 sides of assembly	a-1188	38
1 hr. est	Met Stud—Gypsum Lath & Plaster—2½" USG studs 16" o.c.—⅜" ROCKLATH—MS-1 clips both sides—1" THERMAFIBER sound atten blkts—½" 100:2½ gypsum sand plaster—perim caulked wt 15 width 4¼"	CK-664-18 (s)		49	138		a-1198	39
1 hr.	Met Stud—1 layer ½" IMPERIAL plaster base Type X & veneer plaster—3⅝" USG met studs 24" o.c.—pl base screw att—1" THERMAFIBER sound atten blkts stapled one side—joints stag & taped—1/16" IMPERIAL plaster—perimeter caulked wt 8 width 4¾"	T-3124-OSU (f) CK-664-1 (s)		45	134	Fire test based on assembly with 2½" studs, without wool. Stud spacing at 16" o.c. recommended	a-1148	40
1 hr. est	Met Stud—Gypsum Lath & Plaster—2½" USG studs 16" o.c.—⅜" ROCKLATH—MS-1 clips both sides—½" 100:2½ gypsum sand plaster—perim caulked wt 14 width 4¼"	CK-664-17 (s)		45	125		a-1198	41
1 hr.	Stl Stud—Metal Lath & Plaster—3¼" TRUSSTEEL studs 16" o.c.—3.4# dm met lath—¾" 100:2-100:2 gypsum sand plaster wt 16 width 4¾"	BMS-92 table 31 (f) NBS-429 F44 (s)	41		150	Standard steel stud partition	a-1178	42
1 hr. est	Stl Stud—Resil Gypsum Lath & Plaster—2½" TRUSSTEEL studs 16" o.c.—TR-1 clips one side & TL-1 clips opp side—⅜" ROCKLATH FIRECODE—½" 100:2 gypsum sand plaster—perimeter caulked wt 12 width 4¾"	CK-664-6 (s)		41	128	Can improve STC with THERMAFIBER sound blankets stapled to back of direct-applied side per 125-ft test	a-1188	43
1 hr.	Stl Stud—Gypsum Lath & Plaster—2½" TRUSSTEEL studs 16" o.c.—⅜" perf ROCKLATH—½" 100:2-100:2 gypsum sand plaster wt 13 width 4½"	T-309-OSU (f) TL-58-7 (s)	41		125	Record of proven performance	a-1188	44
1 hr.	Stl Stud—Gypsum Lath & Plaster—1⅝" TRUSSTEEL studs 16" o.c.—⅜" perf ROCKLATH—½" 100:2-100:2 gypsum sand plaster wt 13 width 3⅝"	T-887-OSU (f) TL-58-7 (s)	41		123	Good alternate for most solid partitions	a-1188	45
1 hr.	Met Stud—Gypsum Lath & Plaster—2½" USG studs 24" o.c.—2" THERMAFIBER sound atten blkts—⅜" perf ROCKLATH screw att—½" gypsum sand plaster wt 13 width 4¼"	T-1974-OSU (f) TL-63-268 (s)	38		141		a-1198	46
SOLID TYPE								
1 hr.	Studless—Metal Lath & Plaster—solid—⅜" riblath—100:2-100:2 gypsum sand plaster wt 18 width 2"	T-162-OSU (f) NBS-527-F51 (s)	38		127	Good performance—adaptable in areas of large volume constr.	a-1028	47
1 hr.	Chan Stud—Solid Metal Lath & Plaster—¾" cr chan 16" o.c.—2.5# dm met lath—100:2-100:2 gypsum sand plaster wt 18 width 2"	MLA T-129 OSU (f) NBS-523 F45 (s)	37		133	Standard solid partition design	a-1028	48
1 hr.	Studless—Solid Gypsum Lath & Plaster—½" long length ROCKLATH—¾" 100:1-100:2 gypsum sand plaster wt 16 width 2"	T-118-7 & 8-OSU (f) NBS-510 F29 (s)	34		120	Economical on volume projects where special fitting or cutting is minimum	a-1038	49
MASONRY TYPE								
1 hr.	Gypsum Tile—3" hol PYROBAR—unplastered wt 11 width 3"	BMS-92 table 24 (f)			78		a-1168	50
1 hr.	Gypsum Tile—2" solid PYROBAR—unplastered wt 11 width 2"	BMS-92 table 24 (f)			86	For col. fireprfg., short runs & vent shafts only	a-1168	51
WOOD FRAMED TYPE								
1 hr. est	Wd Stud—Resil ⅝" IMPERIAL plaster base & veneer plaster—2x4 16" o.c.—2 layers pl base one side screw att & lamin—single layer opp side screw att to RC-1 chan spaced 24" o.c.—3" THERMAFIBER ins wool blkts—1/16" IMPERIAL plaster both sides—perimeter caulked wt 11 width 6½"	CK-654-38 (s)		53	160		a-1338	52
1 hr. est	Wd Stud—Resil ⅝" IMPERIAL plaster base & veneer plaster—2x4 16" o.c.—3" THERMAFIBER ins wool blkts—RC-1 chan one side spaced 24" o.c.—base att with 1" Type S screws—opp side att direct with 1¼" Type W screws—1/16" IMPERIAL plaster both sides—perimeter caulked wt 8 width 5½"	CK-664-4 (s) USG-111-FT-G&H (s)	50	49	142	Good sound isolation combined with highly abrasion-resistant surface. CK-664-4 based on ½" plaster base	a-1338	53
1 hr.	Wd Stud—½" IMPERIAL plaster base Type X att direct & veneer plaster—2x4 16" o.c.—base att 6d nails 7" o.c. 1/16" IMPERIAL plaster—joints taped wt 7 width 4¾"	U of C 10-27-64 (f)	N/A		113	Excellent surface hardness and abrasion resistance	a-1338	54

1-hour rated partitions PLASTERED WOOD FRAMED TYPE (continued)

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
55	1 hr. est	Stag Wd Stud—Gypsum Lath & Plaster—stag 2x4 16" o.c. —com top & bottom plates—2" THERMAFIBER ins wool batts—⅜" plain ROCKLATH nailed—½" gypsum sand plaster wt 18 width 7⅜"	TL-58-64 (s)	50		182	Excellent party wall—note comparison with test TL-61-232	a-1368
56	1 hr.	Wd Stud—Resil Gypsum Lath & Plaster—2x4 16" o.c.—⅜" perf ROCKLATH—R-1 resil clips—½" 100:2 gypsum sand plaster wt 15 width 6⅛"	T-1329-OSU (f) TL-60-20 (s)	47		160		a-1378
57	1 hr. est	Wd Stud—Resil Metal Lath & Plaster—2x4's—3.4# dm met lath—¼" pencil rod—#200 resil clips—¾" gypsum sand plaster wt 21 width 6⅛"	TL-61-86 (s)	43		177	Excellent sound isolation for this type construction	a-1358
58	1 hr. est	Stag Wd Stud—Gypsum Lath & Plaster—stag 2x3 16" o.c. —⅜" plain ROCKLATH nailed—100:2½ gypsum sand plaster wt 14 width 4¾" min	TL-61-232 (s)	42		173		a-1368
59	1 hr.	Wd Stud—Gypsum Lath & Plaster—2x4 16" o.c.—⅜" perf ROCKLATH nailed 3" o.c.—9/16" 100:2 gypsum perlite plaster wt 9 width 5½"	UL Des 7-1 hr (f) NBS-252 (f)	N/A		128	Extra nailing and lightweight aggregate with extra thickness	a-1368
60	1 hr.	Wd Stud—Gypsum Lath & Plaster—2x4 16" o.c.—⅜" perf ROCKLATH nailed 4" o.c.—½" 100:2 gypsum sand plaster wt 15 width 5⅜"	T-948 OSU (f) TL-58-60 (s)	41		128	Same as NBS-148 except perf. lath	a-1368
61	1 hr.	Wd Stud—Gypsum Lath & Plaster—2x4 16" o.c.—⅜" plain ROCKLATH—1⅛" nails 4" o.c.—½" 100:2 gypsum sand plaster wt 15 width 5⅜"	T-1380 OSU (f) NBS-148 (s)	40		128	Standard wood stud partition	a-1368
62	1 hr.	Wd Stud—Metal Lath & Plaster—2x4 16" o.c.—3.4# dm met lath—¾" 100:2-100:3 gypsum sand plaster wt 20 width 5⅜"	BMS-92 table 30 (f) NBS-228 F43 (s)	41		146		a-1358
63	1 hr.	Wd Stud—Metal Lath & Plaster—2x4 16" o.c.—3.4# dm met lath—⅝" 100:2-100:2 gypsum sand plaster wt 18 width 5⅛"	BMS-92 table 30 (f)	39 est		146		a-1358

DRYWALL ASSEMBLIES

METAL FRAMED TYPE

64	1 hr. est	Met Stud—½" SHEETROCK FIRECODE "C" gypsum wallbd—3⅝" USG studs 24" o.c.—single layer wallbd one side appl vert & screw att—1" THERMAFIBER sound atten blkts one side—2 layers wallbd opp side appl vert & screw att—joints stag & fin—perimeter caulked wt 7 width 5⅛"	TL-65-252 (s)		51	156		a-1208
65	1 hr.	Met Stud—½" SHEETROCK FIRECODE "C" gypsum wallbd—2½" USG studs 24" o.c.—single layer wallbd ea side appl vert & screw att—1½" THERMAFIBER sound atten blkts one side—joints fin—perimeter caulked wt 5 width 4⅝"	T-3362-OSU (f) TL-65-158 (s)		48	138	Sound test based on 3⅝" studs & 1" wool thickness	a-1208
66	1 hr.	Met Stud—½" SHEETROCK FIRECODE "C" gypsum wallbd—1⅝" USG studs 24" o.c.—2 layer—base layer ½" USG min fiber sound dead bd screw att—wallbd face layer strip lamin & screw att—joints stag & fin—perimeter caulked wt 7 width 3⅝"	UL Des 23-1 hr (f) USG-57-FT-G&H (s)	48		167	Min. value metal stud drywall party wall—sound test made on 3⅝" studs	a-1208
67	1 hr.	Met Stud—⅝" SHEETROCK FIRECODE gypsum wallbd—3⅝" USG studs 24" o.c.—wallbd single layer screw att 12" o.c.—joints fin—perim caulked wt 6 width 4⅞"	T-1174-OSU (f) USG-17-FT-G&H (s)	42		109	Basic 1-hr. corridor—fire test based on screws 8" o.c. at vert. joints	a-1208
68	1 hr.	Met Stud—⅝" SHEETROCK FIRECODE gypsum wallbd—1⅝" USG studs 24" o.c.—wallbd single layer screw att 12" o.c.—joints fin—perimeter caulked wt 5 width 2⅞"	U of C 7-31-62 (f) TL-64-29 (s)	38		108	Min. 1-hr. drywall partn.—fire test based on screws 8" o.c. at vert. joints	a-1208

LAMINATED TYPE

69	1 hr. est	368 Gypsum Ribwall—⅝" SHEETROCK FIRECODE gypsum wallbd—1⅝"x6" gypsum ribs 24" o.c. lamin betw single layer wallbd ea side—wallbd screw att at joints—joints fin wt 8 width 3¾"	TL-62-285 (s)	43		130		a-1068
70	1 hr.	278 Gypsum Studwall—⅝" SHEETROCK FIRECODE gypsum wallbd—1⅝"x6" lamin gypsum studs 24" o.c.—wallbd screw att both sides 18" o.c. wt 7 width 2⅞"	UL Des 16-1 hr (f)	N/A		113	Basic interior divider —chase allows easy elect. installation	a-1058

fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
MOVABLE TYPE							
1 hr.	Mov Demountable Partn—½" vinyl faced SHEETROCK FIRECODE "C" gypsum wallbd & battens screw att—2½" USG met studs 24" o.c.—2" THERMAFIBER sound atten blkts wt 6 width 3½"	UL Des 21-1 hr (f) TL-63-127 (s)	49		187	Low cost—movable by owner's crew—only met. stud movable partn. with high sound & fire rating	71 a-1287
1 hr. est	Mov VAUGHAN WALLS pre-chased sound wall—spec ⅝" USG gypsum wallbd face panels lamin to ⅝" gypsum core strips placed to form panel joints—2 rows 1⅞" thick—vert joints offset—2" insul wool in core space wt 9 width 4"	WEAL 67-103 (s)	47		225	Outstanding tenant wall with excellent sound control—each side finished separately	72 a-1298
1 hr.	Mov VAUGHAN WALLS pre-chased sound wall—spec ⅝" USG gypsum wallbd face panels lamin to ⅝" gypsum core strips—2 rows 1¼" thick separ by spec met Sound Atten Spacer (pat. pend.) placed vert at joints—2" insul wool in core space wt 7.5 width 3"	U of C 6-23-66 (f) WEAL 7-12-66 (s)	44		200	Excellent space saving features. Special sound seals	73 a-1298
1 hr.	Mov VAUGHAN WALLS pre-chased partn—spec ⅝" USG gypsum wallbd face panels lamin to spec 1" gypsum core strips placed to form panel joints wt 7 width 2¼"	UL Des 22-1 hr (f) TL-64-212 (s)	36		150	Panel edges screw att. at qtr. points on fire test. Excellent corridor or tenant wall	74 a-1298
1 hr.	Mov VAUGHAN WALLS standard solid partn—spec ⅝" USG gypsum wallbd face panels lamin to spec 1" USG gypsum core units 24" wide wt 9 width 2¼"	T-1235-OSU (f) U of C 5-24-65 (f) TL-64-213 (s)	36		166	Aluminum trim with steel inserts used in U of C fire test. Fine corridor, tenant wall	75 a-1298
1 hr.	Mov E-Z WALL Drywall Partn—concealed "H" studs 24" o.c. bridged—1½" THERMAFIBER sound atten blkts—¾"x24" bevel edge FIRECODE panels mill lamin—joints unfin wt 7 width 3⅝"	U of C 12-9-65 (f)	45 est		186		76 a-1307
WOOD FRAMED TYPE							
1 hr.	Stag Wd Stud—⅝" SHEETROCK FIRECODE or W/R FIRECODE "C" gypsum wallbd—2 rows 2x3 stag & sep plates 1" apart—base layer of ½" USG wd fiber sound dead bd att with 6d ctd nails—face layer att with 7d ctd nails 7" o.c.—joints fin wt 9 width 8½"	UL Des 17-1 hr (f) USG-46-FT-G&H (s)	53		175	Good sound isolation —party wall use	77 a-1398
1 hr.	Wd Stud—Resil ⅝" SHEETROCK FIRECODE "C" gypsum wallbd—2x4 16" o.c.—3" THERMAFIBER ins wool blkts—RC-1 chan one side spaced 24" o.c.—wallbd att with 1" Type S screws—opp side direct att with 1¼" Type W screws—joints fin—perimeter caulked wt 7 width 5⅜"	UL Des 27-1 hr (f) USG-33-FT-G&H (s)	52		134	Best value of wood stud drywall party walls	78 a-1408
1 hr. est	Stag Wd Stud—⅝" SHEETROCK FIRECODE gypsum wallbd—2x3 16" o.c.—2x3 plates 1" apart—wallbd att with 1¼" Type W screws 16"o.c.—2" THERMAFIBER ins wool blkts one side—perim caulked wt 8 width 7½"	USG-106-FT-G&H (s) USG-155-FT-G&H (s)	51 49		153	Best value in 50 stc range for this type of party wall. 155-FT based on 2x6 common plate	79 a-1398
1 hr. est	Wd Stud—⅝" SHEETROCK FIRECODE gypsum wallbd—2x4 16" o.c.—base layer of ½" USG wd fiber sound dead bd 2 sides att with ctd nails—face layer wallbd att with 6d ctd nails 8" o.c.—joints fin wt 8 width 5⅞"	IBI-20-FT-G&H (s) USG-43-FT-G&H (s)	50 36		151	Party wall use—IBI-20-FT based on face layer wallbd strip lamin—perimeter caulked	80 a-1398
1 hr. est	Wd Stud—Resil SHEETROCK gypsum wallbd 2 layers one side & 1 layer opp side—2x4 16" o.c.—RC-1 chan both sides spaced horiz 24" o.c.—1 layer ⅝" wallbd screw att one side—opp side base layer of ⅝" wallbd screw att & face layer of ½" wallbd lamin—joints fin—perimeter caulked wt 8.7 width 6½"	TL-61-10 (s)	48		146		81 a-1408
1 hr.	Wd Stud—Resil ⅝" SHEETROCK FIRECODE gypsum wallbd—2x4 16" o.c.—RC-1 chan both sides spaced horiz 24" o.c. att with 6d nails—wallbd att with 1" Type S screws—joints fin—perimeter caulked wt 7 width 5⅞"	T-1396-OSU (f) TL-60-52 (s)	45		127	Fully resilient 1-hr. fire rated party wall	82 a-1408
1 hr.	Wd Stud—2 layers ⅜" SHEETROCK gypsum wallbd lamin & nailed—2x4 16" o.c.—joints fin wt 7 width 5⅛"	T-118-48-48A-OSU (f) TL-57-14 (s)	38		133		83 a-1398
1 hr. est	Wd stud—⅝" SHEETROCK FIRECODE gypsum wallbd—2x4 16" o.c.—2" THERMAFIBER ins wool blkts—wallbd screw att with 1¼" Type W screws 16" o.c.—joints fin —perim caulked wt 7 width 4⅞"	USG-105-FT-G&H (s)	35		131		84 a-1398
1 hr.	Wd Stud—⅝" SHEETROCK FIRECODE or W/R FIRECODE "C" gypsum wallbd—2x4 16" o.c.—wallbd nailed 7" o.c. —1⅞" cem ctd nails—joints exp or fin—perim caulked wt 7 width 4⅞"	UL Des 5-1 hr (f) USG-30-FT-G&H (s)	34		111	Sound rating obtained with joints taped	85 a-1398

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference

other partitions

PLASTERED ASSEMBLIES

WOOD FRAMED TYPE

86	N/A	Wd Stud—Resil Gypsum Lath & Plaster—2x4 16" o.c.—3" THERMAFIBER ins wool blkts—⅜" plain ROCKLATH appl direct one side—opp side R-1 resil clips & ⅜" ROCKLATH—½" 100:2½ gypsum sand plaster both sides—perimeter caulked wt 14.5 width 5¾"	CK-664-37 (s) USG-118-FT-G&H (s)	56	50	159	Outstanding sound attenuation through use of clips and insulating wool	a-1378
87	N/A	Wd Stud—Resil Gypsum Lath & Plaster—2x4 16" o.c.—⅜" plain ROCKLATH appl direct one side—opp side base layer of ½" USG wd fiber sound dead bd appl direct & face layer of ⅜" ROCKLATH appl with R-5 resil clips—½" 100:2½ gypsum sand plaster both sides—perimeter caulked wt 14.5 width 6¼"	USG-119-FT-G&H (s)	54		160	Excellent sound attenuation	a-1378
88	N/A	Wd Stud—Resil Gypsum Lath & Plaster—2x4 16" o.c.—⅜" plain ROCKLATH—R-1 resil clips both sides—½" 100:2½ gypsum sand plaster both sides—perimeter caulked wt 14.5 width 6⅛"	USG-121-FT-G&H (s)	54		138	Excellent sound attenuation at moderate cost	a-1378

DRYWALL ASSEMBLIES

MOVABLE TYPE

89	N/A	Mov E-Z WALL Drywall Partn—concealed "H" studs 24" o.c.—2" THERMAFIBER sound atten blkts—¾"x24" bevel edge panels mill lamin—joints unfin wt 7 width 3⅝"	USG-93-FT-G&H (s)	45		180	Versatile movable partn.—variety of style combinations	a-1307
90	N/A	Mov Demountable Partn—½" vinyl faced SHEETROCK FIRECODE gypsum wallbd & battens screw att—2½" USG met studs 24" o.c. wt 5½ width 3½"	TL-63-126 (s)	42		172	Same as TL-63-127 without wool—note stc difference	a-1287

WOOD FRAMED TYPE

91	45 min. est	Wd Stud—½" SHEETROCK gypsum wallbd—2x4 16" o.c.—base layer ½" USG sound dead bd att with 1⅝" ctd nails 12" o.c.—wallbd face layer strip lamin & 2¼" ctd nails 24" o.c. into studs wt 7 width 5⅝"	IBI-5-FT-G&H (s)	42		162	Good where sound resistance more important than fire rating	a-1398

ceiling and floor construction

THE STRUCTURAL, mechanical and architectural designs of a building determine whether a suspended ceiling is to be used, or the floor slab above is to be treated for a finished ceiling appearance.

Suspended ceiling construction should be isolated from walls and penetrating structural members, and expansive ceiling areas should be broken with control joints. Limitations on the maximum size of unrelieved suspended plaster or drywall ceiling areas, and methods of obtaining perimeter isolation, should be carefully observed. Both vary with specific systems.

At least five major factors should be considered in the selection of ceiling systems—physical and sound characteristics, performance, maintenance and cost. These factors are listed below, with U.S.G. assemblies recommended for schools and hospitals used as examples of the comparison process. Numerals in blue identify similar assemblies listed on pages 16 to 20.

LEGEND:
O = Outstanding
E = Excellent
G = Good
F = Fair
P = Poor

U.S.G. CEILING ASSEMBLIES—SCHOOLS AND HOSPITALS	PHYSICAL PROPERTIES: DEAD LOAD (CEILING WEIGHT PER SQ. FT.)	PHYSICAL PROPERTIES: FIRE RATING (HOURS)	SOUND RATING: CLASSIFICATION (STC)	SOUND RATING: ABSORPTION (NRC)	PERFORMANCE INDEX: RESISTANCE TO SURFACE ABRASION	PERFORMANCE INDEX: LIGHT REFLECTANCE (MILL FINISHED or UNPAINTED)	PERFORMANCE INDEX: ACCESSIBILITY	MAINTENANCE: PAINTABILITY	MAINTENANCE: WASHABILITY	COST DATA: COST INDEX (CLG. MATERIALS)	
Concealed tee system—12″ x 24″ PERFATONE metal pans—1 9/16″ pad—2½″ concrete on cellular steel floor	3.0	3	27	.85	E	G	F	F	E	202	—
AIRSON air distribution & suspended exposed grid system—⅝″ x 24″ x 48″ AURATONE FIRECODE acoustical panels—2½″ concrete on cellular steel floor	1.2	3	41	.65	G	E	E	F	F	102	1
½″ IMPERIAL plaster base Type "X"—⅛″ IMPERIAL plaster—USG metal furring channel—2½″ concrete over bar joist	4.0	2	45	—	O	F	P	O	E	60	32
½″ SHEETROCK FIRECODE "C" wallboard on metal furring channels 24″ o.c.—2½″ concrete over bar joist	3.0	2	44	—	E	G	P	O	G	40	33
Suspended concealed Z-spline system—¾″ x 12″ x 12″ ACOUSTONE "120" fissured mineral tile—2½″ concrete over bar joist or cellular steel floor	1.3	2	39	.75	G	E	F	F	F	112	24
AIRSON air distribution & concealed Z-spline system— ¾″ x 12″ x 12″ ACOUSTONE "120" acoustical tile—2½″ concrete on cellular steel floor	1.3	2	39	.75	G	E	F	F	F	142	5
AIRSON air distfibution & suspended exposed grid system—⅝″ x 24″ x 48″ AURATONE FIRECODE ceiling panels—2″ SHEETROCK-PYROFILL gypsum roof deck or a 2½″ concrete deck on Riblath over bar joist or 2½″ concrete over bar joist	1.2	2	41	.65	G	E	O	F	F	102	3
Suspended exposed grid system ⅝″ x 24″ x 48″ or 24″ x 24″ AURATONE FIRECODE ceiling panels—2″ SHEETROCK-PYROFILL gypsum roof deck or 2½″ concrete deck on Riblath over bar joist	1.2	2	42	.65	G	E	O	F	F	72	26
OTHER U.S.G. CEILING ASSEMBLIES FOR HOSPITALS											
Metal lath & plaster—3.4# diamond mesh lath & ⅞″ neat wood-fiber plaster—2½″ concrete over bar joist	9.0	3	46	—	O	E	P	O	E	130	22
ROCKLATH plaster base & plaster—⅜″ perf. gypsum lath—9/16″ perlite plaster—2½″ concrete over cellular steel floor	5.0	3	45	—	E	E	P	O	E	115	20
⅝″ SHEETROCK FIRECODE "C"—USG furring channels 24″ o.c.—3″ concrete over bar joist	3.0	3	45	—	E	G	P	O	G	40	19
ROCKLATH plaster base & plaster—⅜″ perf. gypsum lath—⅝″ gypsum sand plaster—2″ concrete over bar joist	7.0	2	46	—	O	E	P	O	E	106	31
Same as above, except ½″ AUDICOTE acoustical plaster instead of ⅛″ gauging	10.0	2	46	.55	G	E	P	G	P	121	—
Same as above, except ½″ HI-LITE acoustical plaster finish instead of ⅛″ gauging	11.0	2	47	.60	E	E	P	G	G	132	—
⅝″ SHEETROCK FIRECODE wallboard—USG furring channels 24″ o.c.—wallboard attached with Type "S" screws 12″ o.c.—joints unfinished—2½″ concrete over bar joist (for lamination of acoustical tile)	3.0	2	47	—	—	F	P	—	—	62	34

ceiling air distributing and heating systems

VARIOUS ASSEMBLIES

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
1	3 hrs. (beam 5 hrs.)	AIRSON AURATONE FIRECODE Air Distr Syst on Exposed Grid—⅝"x24"x48" acoust panels 50% AIRSON A-5 or 100% AIRSON A-2—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on cellular stl flr clg wt 1.2	UL Des 65-3 hr (f)	41 est		clg matls 102	Includes air controls in panels; "cost index" excludes zone barriers & plenum insul.	b-1568
2	3 hrs. (beam 4 hrs.)	AIRSON AURATONE FIRECODE Air Distr Syst on Concealed Z-Splines—¾"x12"x12" acoust tile 100% AIRSON A-2 or 50% AIRSON A-5—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on cellular stl flr clg wt 1.2	UL Des 59-3 hr (f)	40 to 44		clg matls 142	Includes air controls in tile—"cost index" excludes zone barriers & plenum insul.	b-1568
3	2 hrs.	AIRSON AURATONE FIRECODE Air Distr Syst on Exposed Grid—⅝"x24"x48" acoust panels 50% AIRSON A-5 or 100% AIRSON A-2—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—1½" PYROFILL gypsum conc roof deck with ½" SHEETROCK formbd over bar joist clg wt 1.2	UL Des RC-6-2 hr (f)	41 est		clg matls 102	Includes air controls in panels; "cost index" excludes zone barriers & plenum insul.	b-1568 c-1648
4	2 hrs. (beam 4 hrs.)	AIRSON AURATONE FIRECODE Air Distr Syst on Exposed Grid—⅝"x24"x48" or 24"x24" acoust panels 50% AIRSON A-5 or 100% AIRSON A-2—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on riblath over bar joist clg wt. 1.2	UL Des 72-2 hr (f) UL Des 226-2 hr (f)	N/A		clg matls 102	UL Des 226-2 hr includes 4-hr beam; "cost index" excludes zone barriers & plenum insul.	b-1568
5	2 hrs. (beam 2 hrs.)	AIRSON ACOUSTONE 120 Air Distr Syst on USG Concealed Z-Spline Susp Syst—¾"x12"x12" min acoust tile 50% AIRSON A-5 or 100% AIRSON A-2—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on cellular stl flr clg wt 1.3	UL Des 85-2 hr (f)	39 est		clg matls 142	Includes air controls in tile; "cost index" excludes zone barriers & plenum insul.	b-1568
6	2 hrs.	AIRSON AURATONE FIRECODE Air Distr Syst on Concealed Z-Splines—⅝"x12"x12" acoust tile 100% AIRSON A-2 or 50% AIRSON A-5—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on riblath over bar joist clg wt 1.2	UL Des 84-2 hr (f)	40 to 44		clg matls 135	Includes air controls in tile—"cost index" excludes zone barriers & plenum insul.	b-1568
7	2 hrs.	AIRSON AURATONE FIRECODE Air Distr Syst on Concealed Z-Splines—⅝"x12"x12" acoust tile 100% AIRSON A-2 or 50% AIRSON A-5—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2" THERMOFILL gypsum conc roof deck with ½" SHEETROCK formbd over bar joist clg wt 1.2	UL Des RC-13-2 hr(f)	40 to 44		clg matls 135	Includes air controls in tile—"cost index" excludes zone barriers & plenum insul.	b-1568 c-1648
8	incomb. class 25	AIRSON AURATONE Air Distr Syst on Exposed Grid—⅝"x24"x24" or 24"x48" acoust panels slotted AIRSON A-5 or A-2 on a 100%, 50% or 25% basis clg wt 1.2	authority ASTM E84	N/A		clg matls 102	Air controls in panels; "cost index" excludes zone barriers & plenum insul.	b-1568 f-1928
9	incomb. class 25	AIRSON ACOUSTONE "F" Air Distr Syst on USG Concealed Z-Spline Susp Syst—¾"x12"x12"or 12" x24" min acoust tile—slotted AIRSON A-2 or A-5 clg wt. 1.3	authority ASTM E84	36 est based on 50% A-5		clg matls 112	Basic concealed system; "cost index" excludes zone barriers & plenum insul.	b-1568 f-1928
10	incomb.	AIRSON Grid Air Distr Syst—Exposed AIRFLO grid systems for standard acoust panels—adjustable air distr through grid itself	—	N/A		clg matls 102 excl plenum treatmt	Basic exposed grid system with unslotted panels—steel or aluminum grid	b-1568 f-1928
11	1 hr. est	THERMALUX elect radiant heated ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—½" THERMALUX htg panels & filler panels (both Type C core) att with spec insul nails 6" o.c.—¼" THERMALUX fin panels lamin over base panels—joints fin clg wt 3		N/A		clg matls 38 (excl htg syst costs)	Est. fire rating based on constr. in UL Des 42—1 hr. Completely integrated USG system. Uniform heat, lower operating temps., exceptional comfort	b-1528
12	1 hr.	RED TOP Radiant Heat Plaster—1" nom wd sub-fin flr on wd joist—spec ½" Type X plaster base att direct—5d nails 6" o.c.—fiber tape stapled over joints—elect heat cables embedded in ¼" radiant heat plaster clg wt 5	FPRI 39 (f)	N/A		clg matls 32	Better heat emission, allows higher cable temps. than with other plasters	b-1518

4-hour rated ceilings

PLASTERED ASSEMBLIES

13	4 hrs. (beam 4 hrs.)	Metal Lath & Plaster—¾" cr chan susp 7¼" below deck 2" below beam—3.4# dm met lath & ⅝" 100:3 gypsum perlite plaster basecoat—½" USG acoust plaster—conc over cellular stl flr clg wt 7	GA-NBS-338 (f)	N/A		clg matls 140		b-1488
14	4 hrs. (beam 4 hrs.)	Metal Lath & Plaster—¾" chan 13" o.c. 3½" below beam—3.4# dm met lath & ⅞" STRUCTO-LITE (Type S) plaster—2" conc over fluted stl flr clg wt 6	UL Des 12-4 hr (f)	N/A		clg matls 129		b-1488
15	4 hrs.	ROCKLATH PI Base & Plaster—¾" cr chan 12" o.c. & BRACE-TITE Clips—⅜" perf gypsum lath—1" 100:2-100:3 gypsum perlite plaster—1" 20-ga hex mesh—2" conc on riblath over bar joist clg wt 7	GA-NBS-311 (f)	N/A		clg matls 120		b-1468

fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference	
3-hour rated ceilings								
	VARIOUS ASSEMBLIES							
3 hrs.	ACOUSTONE 180 Fissured or MOTIF'D ¾"x12"x12" min acoust tile on Concealed Z-Spline Syst—2½" conc deck on riblath over bar joist clg wt 1.3	UL Des 96-3 hr (f)	39 est		clg matls 112		b-1558	16
3 hrs. (beam 5 hrs.)	AURATONE FIRECODE ⅝"x24"x48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc on cellular stl flr clg wt 1.2	UL Des 65-3 hr (f)	40 to 44		clg matls 72	See Sound Control Products Folder for STC values of various patterns	b-1548	17
3 hrs. (beam 4 hrs.)	AURATONE FIRECODE ¾"x12"x12" acoust clg tile on Concealed Z-Spline Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on cellular stl flr clg wt 1.2	UL Des 59-3 hr (f)	40 to 44		clg matls 112	See Sound Control Products Folder for STC values of various patterns	b-1548	18
3 hrs. (beam 3 hrs.)	⅝" SHEETROCK FIRECODE "C" gypsum wallbd—USG met fur chan 24" o.c.—wallbd att with 1" Type S screws 12" o.c.—joints exp or fin—3" conc on riblath over bar joist clg wt 3	UL Des 82-3 hr (f)	N/A		clg matls 40		b-1498	19
3 hrs.	ROCKLATH PI Base & Plaster—¾" cr chan 12" o.c. & BRACE-TITE Clips—⅜" perf gypsum lath—14-ga diag wire reinf—9/16" 100:2½ gypsum perlite plaster—2½" conc over cellular stl flr clg wt 5	GA-NBS-337 (f)	N/A		clg matls 115	Good crack resistance with an opportunity to reinforce plaster at re-entry angle	b-1468	20
3 hrs. (beam 4 hrs.)	Metal Lath & Plaster—¾" cr chan susp 15½" below deck & 3½" below beam—3.4# dm mesh metal lath—⅝" STRUCTO-LITE (Type R) plaster—2" conc over cellular stl flr clg wt 5	UL Des 11-3 hr (f)	N/A		clg matls 127		b-1488	21
3 hrs.	Metal Lath & Plaster—¾" cr chan furred or susp—3.4# dm met lath & ⅞" neat wood fiber gypsum plaster—2½" conc on riblath over bar joist clg wt 9	BMS-92 table 43 (f)	N/A		clg matls 130	Cost index based on furred construction	b-1488	22
2½-hour rated ceilings								
	PLASTERED ASSEMBLIES							
2½ hrs.	Metal Lath & Plaster—¾" cr chan furred or susp—3.4# dm met lath & ¾" 100:1-100:1 gypsum wood fiber sand plaster—2½" conc on riblath over bar joist clg wt 10	UL R5429-1 (f)	N/A		clg matls 126	Cost index based on furred construction	b-1488	23
2-hour rated ceilings								
	MINERAL FIBER SURFACES							
2 hrs. (beam 2 hrs.)	ACOUSTONE 120 Fissured or Glacier or MOTIF'D ¾"x12" x12" min acoust tile on Concealed Z-Spline Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on cellular stl flr clg wt 1.3	UL Des 85-2 hr (f)	39 est		clg matls 112		b-1558	24
2 hrs.	ACOUSTONE 120 Fissured or Glacier or MOTIF'D ¾"x12" x12" min acoust tile on Concealed Z-Spline Syst—2½" conc deck on riblath over bar joist clg wt 1.3	UL Des 41-2 hr (f)	39 est		clg matls 112		b-1558	25
2 hrs.	AURATONE FIRECODE ⅝"x24"x48" acoust clg panels in Susp Exposed Grid Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—1½" PYROFILL gypsum conc roof deck with ½" SHEETROCK formbd over bar joist clg wt 1.2	UL Des RC-6-2 hr (f)	40 to 44		clg matls 72	See Sound Control Products Folder for STC values of various patterns	c-1648 b-1548	26
2 hrs. (beam 4 hrs.)	AURATONE FIRECODE ⅝"x24"x48" or 24"x24" acoust clg panels in Susp Exposed Grid Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2½" conc deck on riblath over bar joist clg wt 1.2	UL Des 72-2 hr (f) UL Des 226-2 hr (f)	40 to 44		clg matls 72	UL Des 226-2 hr includes 4-hr. beam	b-1548	27
2 hrs.	AURATONE FIRECODE ⅝"x12"x12" acoust clg tile on Concealed Z-Spline Syst—clg interrupted—light fixt prot by 1¼" min wool bd—2½" conc on riblath over bar joist clg wt 1.2	UL Des 84-2 hr (f)	40 to 44		clg matls 105	See Sound Control Products Folder for STC values of various patterns	b-1548	28
2 hrs.	AURATONE FIRECODE ⅝"x12"x12" acoust clg tile on Concealed Z-Spline Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2" THERMOFILL gypsum conc roof deck with ½" SHEETROCK formbd over bar joist clg wt 1.2	UL Des RC-13-2 hr (f)	40 to 44		clg matls 105	See Sound Control Products Folder for STC values of various patterns	c-1648 b-1548	29

2-hour rated ceilings (continued)

PLASTERED ASSEMBLIES

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference
30	2 hrs.	Metal Lath & Plaster—¾" cr chan furred or susp—3.4# dm met lath & ⅝" 100:2-100:3 gypsum sand plaster—2½" conc on riblath over bar joist clg wt 9	BMS-92 table 43 (f)	N/A		clg matls 119	Cost index based on furred construction	b-1488
31	2 hrs.	ROCKLATH Pl Base & Plaster—¾" cr chan 12" o.c. & BRACE-TITE Clips—⅜" perf gypsum lath—14-ga diag wire reinf—⅝" 100:2-100:3 gypsums and plaster—2" conc over bar joist clg wt 7	GA-NBS-345 (f)	N/A		clg matls 106	Good crack resistance with an opportunity to reinforce plaster at re-entry angle	b-1468
32	2 hrs.	½" IMPERIAL gypsum pl base Type X & veneer plaster ceiling—USG met fur chan 24" o.c.—pl base att with screws 12" o.c.—joints taped—1/16" IMPERIAL plaster clg wt 4	UL Des 221-2 hr (f)	N/A		clg matls 60	Spacing of furring channel at 16" o.c. recommended	a-1148

GYPSUM DRYWALL SURFACES

33	2 hrs.	½" SHEETROCK FIRECODE "C" gypsum wallbd—furred or susp—USG met fur chan 24" o.c.—wallbd att with 1" Type S screws 12" o.c.—joints exp or fin—2½" conc on riblath over bar joist clg wt 3	UL Des 221-2 hr (f)	N/A		clg matls 40		b-1498
34	2 hrs.	⅝" SHEETROCK FIRECODE gypsum wallbd—furred or susp—USG met fur chan 24" o.c.—wallbd att with 1" Type S screws 12" o.c.—joints exp or fin—2½" conc deck on riblath over bar joist clg wt 3	UL Des 82-2 hr (f)	40 db est		clg matls 62	Sound estimate based on joints finished	b-1498
35	2 hrs.	⅝" SHEETROCK FIRECODE gypsum wallbd—furred or susp—USG met fur chan 12" o.c.—wallbd att with type S screws 8" o.c.—joints fin—2½" conc deck on riblath over bar joist clg wt 3	UL Des 63-2 hr (f)	40 db est		clg matls 65		b-1498
36	2 hrs.	Resil 2 layers ⅝" SHEETROCK FIRECODE "C" gypsum wallbd ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer wallbd—face layer screw att to chan 12" o.c.—joints fin clg wt 5	UL Des 272-2 hr (f)	N/A		clg matls 90		b-1458

1½-hour rated ceilings

VARIOUS ASSEMBLIES

37	1½ hrs.	ACOUSTONE 90 Fissured or Glacier or MOTIF'D ¾"x12" x12" min acoust tile on Concealed Z-Spline Syst—2" conc deck on riblath over bar joist clg wt 1.3	UL Des 6-1½ hr (f)	47 est		clg matls 105		b-1558
38	1½ hrs. (beam 3 hrs.)	AURATONE FIRECODE ½"x24"x48" or 24"x24" acoust clg panels in Susp Exposed Grid Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2" conc deck on riblath over bar joist clg wt 1.2	UL Des 18-1½ hr (f) UL Des 24-1½ hr (f)	40 to 44		clg matls 65	UL Des 24-1½ hr based on 24"x24" panels and 2½" concrete	b-1548
39	1½ hrs.	Resil 2 layers ½" SHEETROCK FIRECODE "C" gypsum wallbd ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer wallbd—face layer screw att to chan 12" o.c.—joints fin clg wt 5	UL Des 22-1½ hr (f)	49 est		clg matls 46		b-1458
40	1½ hrs.	⅝" SHEETROCK FIRECODE gypsum wallbd—furred or susp—USG met fur chan 24" o.c.—wallbd screw att 12" o.c.—joints fin—2" conc on riblath over bar joist clg wt 3	UL Des 4-1½ hr (f)	42 db est		clg matls 46	Sound attenuation estimate made for floor & ceiling system	b-1498
41	1½ hrs.	Metal Lath & Plaster—susp 3.4# dm met lath & 1" 100:2 gypsum sand plaster—rib type stl rf deck with 1½" wd fiber insul clg wt 13	NBS-58 (f)	N/A		clg matls 129		b-1488
42	1½ hrs.	Metal Lath & Plaster—susp 3.4# dm met lath & ¾" 100:2-100:3 gypsum sand plaster—rib type stl rf deck with 1" wd fiber insul clg wt 10	NBS-57 (f)	N/A		clg matls 127		b-1488

1-hour rated ceilings

MINERAL FIBER SURFACES

43	1 hr.	ACOUSTONE 90 Fissured or Glacier or MOTIF'D ¾"x12" x12" min acoust tile on Concealed Z-Spline Syst—2" nom wd sub & fin floor over wd joist 16" o.c. clg wt 1.3	UL Des 15-1 hr (f)	47 est		clg matls 112		b-1558
44	1 hr.	AURATONE FIRECODE ⅝"x24"x48" or 24"x24" acoust clg panels in Susp Exposed Grid Syst—clg interrupted—light fixt prot by 1¼" THERMAFIBER min wool bd—2" nom wd sub & fin flr over 2x10 wd joist clg wt 1.2	UL Des 31-1 hr (f)	40 to 44		clg matls 72	See Sound Control Products Folder for STC values of various patterns	b-1548

fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference	
GYPSUM DRYWALL SURFACES								
1 hr.	⅝" BAXBORD FIRECODE gypsum wallbd—24 ga nailing chan—wallbd att with ann nails 6" o.c.—joints unfin—2" conc on riblath over bar joist clg wt 3	UL Des 5-1 hr (f)	35 db est		clg matls 45		b-1498	45
1 hr. est	USG Sound Code flr/clg assembly—Resil ½" SHEETROCK gypsum wallbd screw att to RC-1 chan spaced 24" o.c.—joints fin—2x10 wd joist 16" o.c.—3" THERMAFIBER ins wool blkts betw joists—1 layer ea of ½" plywd—½" USG wd fiber sound dead bd—½" FIRECODE gypsum sheathg—⅜" A.C. plywd—resil flr tile clg wt 5	CK-6512-22 (s)	(INR) +2	53	clg matls 45		b-1458	46
1 hr. est	Resil SHEETROCK gypsum wallbd ceiling—1¼" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan screw att to joist—wallbd att with 1" Type S screws—joints fin clg wt 3	CK-6512-6 (s) (½" FIRECODE "C") CK-6412-10 (s) (⅝" reg SHEETROCK)	(INR) −12 −12	47 47	clg matls 33 34		b-1458	47
1 hr. est	Resil SHEETROCK gypsum wallbd ceiling—1¼" nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—RC-1 chan screw att to joists—wallbd att with 1" Type S screws—joints fin clg wt 3	CK-6512-7 (s) (½" FIRECODE "C") CK-6412-9 (s) (⅝" reg SHEETROCK)	(INR) +16 +15	47 48	clg matls 33 34		b-1458	48
1 hr. est	Resil SHEETROCK gypsum wallbd ceiling—1¼" nom wd sub & fin flr—2x10 wd joist 16" o.c.—3" THERMAFIBER ins wool blkts betw joists—RC-1 chan screw att to joists—wallbd screw att—joints fin clg wt 3	CK-6512-9 (s) (½" FIRECODE "C") CK-6412-3 (s) (⅝" reg SHEETROCK)	(INR) −5 −5	51 50	clg matls 45 46		b-1458	49
1 hr. est	Resil SHEETROCK gypsum wallbd ceiling—1¼" nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—3" THERMAFIBER ins wool blkts betw joists—RC-1 chan screw att to joists—wallbd att with 1" Type S screws—joints fin clg wt 3	CK-6512-8 (s) (½" FIRECODE "C") CK-6412-4 (s) (⅝" reg SHEETROCK)	(INR) +20 +19	52 51	clg matls 45 46		b-1458	50
1 hr.	⅝" SHEETROCK FIRECODE gypsum wallbd ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—wallbd att with 6d nails 6" o.c.—joints fin clg wt 3	UL Des 1-1 hr (f) CK-6412-7 (s) CK-6412-8 (s)	(INR) −19 +5	38 39	clg matls 26	In CK-6412-8 test, 44-oz. carpet & 40-oz. pad added atop flooring	a-1398	51
1 hr. est	⅝" SHEETROCK gypsum wallbd ceiling—1¼" nom wd sub & fin flr—2x10 wd joist 16"o.c.—3" THERMAFIBER ins wool blkts betw joists — wallbd att with 6d nails 6" o.c.—joints fin clg wt 3	CK-6412-6 (s) CK-6412-5 (s)	(INR) −18 +7	41 40	clg matls 35	In CK-6412-5 test, 44-oz. carpet & 40-oz. pad added atop flooring	a-1398	52
1 hr.	Resil ½" SHEETROCK FIRECODE "C" gypsum wallbd ceiling—1¼" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c.—wallbd att with 1" Type S screws—joints fin clg wt 3	UL Des 41-1 hr (f)	N/A		clg matls 33		b-1458	53
1 hr.	½" SHEETROCK FIRECODE "C" gypsum wallbd ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—wallbd att with 5d cem ctd nails 6" o.c.—joints fin clg wt 3	UL Des 42-1 hr (f)	N/A		clg matls 23		a-1398	54
1 hr.	⅝" SHEETROCK FIRECODE gypsum wallbd ceiling—Amer Plywood Assn 2-4-1 flr 4x10 wd joist 48" o.c.—USG met fur chan spaced 24" o.c.—wallbd att with 1" Type S screws—joints fin clg wt 3	UL Des 28-1 hr (f)	N/A		clg matls 36	Only 1-hr. residential drywall system based on 48" joist spacing	a-1398	55
PLASTERED ASSEMBLIES								
1 hr.	ROCKLATH PI Base & Plaster—¾" cr chan 16" o.c. & BRACE-TITE Clips—⅜" perf gypsum lath—⅝" STRUCTO-LITE plaster—2½" conc on riblath over bar joist clg wt 5	NBS 261 (f)	45 db est		clg matls 104	Attenuation test—good crack resistance, can reinforce plaster at re-entry angle	b-1468	56
1 hr.	½" IMPERIAL gypsum pl base Type X & veneer plaster ceiling—wd joist 2x10 16" o.c.—1" nom wd sub & fin flr—pl base att 5d nails 6" o.c.—1/16" IMPERIAL plaster—joints taped clg wt 7.5	UL Des 42-1 hr (f)	N/A		clg matls 27		a-1338	57
1 hr.	Resil ½" IMPERIAL gypsum pl base Type X & veneer plaster ceiling—wd joist 2x10 16" o.c.—1" nom sub & fin flr—RC-1 chan spaced 16" o.c. and at end joists—pl base att with Type S screws 12" o.c.—1/16" IMPERIAL plaster—joints taped clg wt 7	UL Des 41-1 hr (f)	N/A		clg matls 38		a-1338	58
1 hr.	Gypsum Lath & Plaster Ceiling—wd joist—1" nom wd sub & fin flr—⅜" perf ROCKLATH—3" Striplath on joints—½" 100:2 gypsum sand plaster clg wt 6	BMS-92 table 42 (f) NBS-714 (s)	37		clg matls 51	Good method to attain 1-hr. rating—note Striplath use	a-1368	59
1 hr.	Gypsum Lath & Plaster Ceiling—wd joist—1" nom wd sub & fin flr—⅜" ROCKLATH FIRECODE—3" Striplath along joist—½" 100:2 gypsum sand plaster clg wt 6	FPRI No. 6 (f)	37 est		clg matls 40	Best method to attain 1-hr. rating—standard frame const	a-1368	60
1 hr.	Gypsum Lath & Plaster Ceiling—wd joist—1" nom wd sub & fin flr—⅜" ROCKLATH FIRECODE—⅝" 100:2 gypsum perlite or STRUCTO-LITE plaster clg wt 5	T-2134-1 OSU (f)	N/A		clg matls 40	Constr. same as FPRI No. 6 except for Striplath & plast.	a-1368	61
1 hr.	Gypsum Lath & Plaster Ceiling—wd joist—1" nom wd sub & fin flr—⅜" perf ROCKLATH—½" 100:2½ gypsum perlite plaster clg wt 7	GA-NBS-258 (f)	N/A		clg matls 39	Standard frame construction	a-1368	62
1 hr. est	Wd Joist—Resil Metal Lath & Plaster Ceiling—1" nom wd sub & fin flr—3.4# dm met lath att to ¼" pencil rod on #200 resil clips—⅝" 100:2-100:3 gypsum sand plaster clg wt 10	NBS-710 (s)	52		clg matls 68	Excellent sound isolation & crack resistance	a-1358	63
1 hr.	Wd Joist—Metal Lath & Plaster Ceiling—1" nom wd sub & fin flr—3.4# dm met lath att with 1½" nails 6" o.c.—⅝" 100:2-100:3 gypsum sand plaster clg wt 10	BMS-92 table 42 (f)	35 db est		clg matls 55		a-1358	64

	fire rating	description	test no.	stc rating 11-f	stc rating 16-f	relative cost index	comments	folder reference

other ceiling assemblies

VARIOUS ASSEMBLIES

65	incomb. class 25	ACOUSTONE "F" ¾"x12"x12" or 12"x24" min acoust tile on Concealed Z-Spline Syst	authority ASTM E84	29 est		clg matls 83	Basic concealed spline acoustical tile system	b-1558 f-1928
66	incomb. class 25	ACOUSTONE "F" ¾"x12"x24", 12"x36", or 12"x48" min acoust tile on Exp Z-Spline Syst	authority ASTM E84	26 est		clg matls 83	Basic exposed spline acoustical tile system for accessibility	b-1558 f-1928
67	incomb. class 25	AURATONE ¾"x24"x24" or 24"x48" acoust clg panels in Susp Exposed Grid Syst clg wt 1.0	authority ASTM E84	40 to 44		clg matls 63	Basic incombustible lay-in acoustical panels; NRC varies with pattern	b-1548 f-1928
68	incomb. class 25	AURATONE ⅝"x24"x24" or 24"x48" acoust clg panels in Susp Exposed Grid Syst clg wt 1.0	authority ASTM E84	40 to 44		clg matls 60	Basic incombustible lay-in acoustical panels; NRC varies with pattern	b-1548 f-1928
69	N/A	ROCKLATH PI Base & Plaster—¾" cr chan & BRACE-TITE Clips—⅜" gypsum lath—½" 100:2-100:2½ gypsum sand plaster clg wt 6	USG-6-FT-G&H (s)	45 db		clg matls 103	Attenuation test—suspension & ceiling membrane only	b-1468
70	N/A	Resil Gypsum Lath & Plaster Ceiling—wd joist—1" nom sub & fin flr—⅜" ROCKLATH appl with R-1 resil clips —½" gypsum sand plaster clg wt 6	NBS-709 F43 (s)	52		clg matls 58	Good resistance to airborne sound; excellent crack resistance	a-1378
71	N/A	⅝" SHEETROCK FIRECODE gypsum wallbd—1½" cr chan 4' o.c.—USG met fur chan 24" o.c.—wallbd screw att 12" o.c.—joints fin clg wt 3	USG-5-FT-G&H (s)	45 db (9-f)		clg matls 60	"Up and over" attenuation—suspension & clg. membrane only	b-1498
72	45 min.	½" SHEETROCK FIRECODE gypsum wallbd ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—wallbd att with 5d cem ctd nails 6" o.c.—joints fin clg wt 3	UL Des 1-45 min (f) NBS-77 P-716 (s)	36		clg matls 23	Basic 45-min assembly —sound attenuation test	a-1398

	description	comments	folder reference
73	QUIETONE Grid System	Wood fiber and incombustible mineral fiber lay-in acoustical panels with simplified exposed metal grid; STC 39-40, NCR .55-.70; also plain decorative panels	b-1508
74	Exposed formboard ceilings under gypsum conc poured roof deck	Choice of finished formboards, incombustible and acoustical types, available as part of integral roof system. See "Roof Assemblies" section below	c-1648

	fire rating	description	test no.	relative cost index	comments	folder reference
1	2 hrs.	PYROFILL Gypsum Concrete Roof Deck poured 2½" min thickn over ½" SHEETROCK formbd—178 BT-1214 reinf mesh slab wt 12.8 thickn 3"	NBS-406 (f)	52	Thickn. includes formboard—protection of primary steel required	c-1648
2	2 hrs.	THERMOFILL Gypsum Concrete Roof Deck poured 2" min thickn over 1" FIRECODE formbd — Keydeck trussed tee — Keydeck reinf mesh slab wt 8 thickn 3"	UL Des RC-15 (f)	60	Thickn. includes formboard—protection of primary steel required	c-1648
3	2 hrs.	PYROFILL Gypsum Concrete Roof Deck poured 1½" min thickn over ½" SHEETROCK formbd—bulb or clip tee on bar joist—susp (1) AURATONE FIRECODE or (2) AIRSON acoust clg panels slab wt 8.5 thickn 2"	UL Des RC-6 (f)	100 (1) 120 (2) incl clg assembly	Thickn. includes formboard excluding ceiling—air control valves in AIRSON panels	c-1648 b-1548 b-1568
4	2 hrs.	THERMOFILL Gypsum Concrete Roof Deck poured 2" min thickn over ½" SHEETROCK formbd— bulb tee on bar joist — susp (1) AURATONE FIRECODE or (2) AIRSON acoust clg tile slab wt 8.2 thickn 2½"	UL Des RC-13 (f)	105 (1) 140 (2) incl clg assembly	Thickn. includes formboard excluding ceiling—air control valves in AIRSON tile	c-1648 b-1548 b-1568
5	2 hrs.	USG Metal Edge Plank Roof Deck—MEP-7 precast—clipped on bar joists spaced 7'0" o.c.— ¾" incomb insul— susp ⅝" AURATONE FIRECODE acoust clg panels slab wt 11.5 thickn 2¾"	UL Des RC-22 (f)	167	A good high-strength, long-span dry decking that is simple to erect	c-1658
6	1 hr.	PYROFILL Gypsum Concrete Roof Deck poured 2" min thickn over ½" SHEETROCK formbd—178 BT-1214 reinf mesh slab wt 10.7 thickn 2½"	GA-NBS-400 (f)	50	Thickn. includes formboard—protection of primary support steel required	c-1648
7	incomb.	PYROFILL or THERMOFILL Gypsum Concrete poured over incomb formbd—rated incombustible by NBFU definition	SS-S-00118C fed spec	—	Thickness of fill may be 1½" or 2" min.	c-1648

fire rating	description	test no.	relative cost index	folder reference	

column fireproofing

4-HOUR RATED APPLICATIONS

4 hrs.	Gypsum Lath & Plaster Fireprfg—2 layers ½" long length ROCKLATH pl base—1" 20-ga hex mesh—1½" 100:2½ gypsum perlite plaster	GA-NBS-278 (f)	125	d-1718	1
4 hrs.	Metal Lath & Plaster Fireprfg—3.4# dm met lath fur ½" from face of col—1⅞" STRUCTO-LITE plaster with fill betw flange face & lath	UL Des 3-4 hr (f)	120	d-1708	2
4 hrs.	Metal Lath & Plaster Fireprfg—3.4# dm met lath—¾" cr chan spaced 24" o.c. vert—1½" 100:2-100:3 gypsum perlite plaster	UL Des 7-4 hr (f)	109	d-1708	3
4 hrs.	Metal Lath & Plaster Fireprfg—3.4# sf dm met lath wrapped around col—1¾" STRUCTO-LITE or 100:2-100:3 gypsum perlite plaster	UL Des 6-4 hr (f)	108	d-1708	4
4 hrs.	PYROBAR Gypsum Tile & Drywall Fireprfg—2" solid tile around col—tile banded 24" from ea end—contin met angles screw att to bands—1 layer ⅝" SHEETROCK FIRECODE wallbd screw att to angles—met corner beads—joints fin wt 13	UL Des 31-4 hr (f) UL Des 34-4 hr (f) (based on 3" hol tile)	165 163	d-1738	5
4 hrs.	PYROBAR Gypsum Tile & Plaster Fireprfg—3" hollow—⅝" gypsum sand plaster—sanded basecoat & lime putty fin recom wt 17	BMS-92 table 40 (f)	172	d-1728	6
4 hrs.	PYROBAR Gypsum Tile & Plaster Fireprfg—2" solid—⅝" 100:3 gypsum sand plaster wt 17	BMS-92 table 40 (f)	174	d-1728	7
4 hrs.	PYROBAR Gypsum Tile & Plaster Fireprfg—2" solid—2" met band placed 24" from ea end—22-ga contin met angles screw att to bands—⅝" IMPERIAL pl base screw att to angles—1/16" IMPERIAL plaster wt 14	UL Des 31-4 hr (f) UL Des 34-4 hr (f) (based on 3" hol tile)	172 170	d-1728	8

3-HOUR RATED APPLICATIONS

3 hrs.	Gypsum Lath & Plaster Fireprfg—⅜" perf ROCKLATH pl base—1⅜" 100:2½ gypsum perlite plaster	GA-NBS-321 (f)	100	d-1718	9
3 hrs.	Gypsum Lath & Plaster Fireprfg—⅜" perf ROCKLATH pl base—2" 100:2-100:3 gypsum sand plaster	GA-NBS-344 (f)	106	d-1718	10
3 hrs.	Metal Lath & Plaster Fireprfg—3.4# sf dm met lath wrapped around col—1⅜" 100:2-100:3 gypsum perlite plaster	UL Des 6-3 hr (f)	97	d-1708	11
3 hrs.	Gypsum Drywall Fireprfg—3 layers ⅝" SHEETROCK FIRECODE wallbd around col—base & second layers att by DUR-A-BEAD & horiz double tie wires—2nd & 3rd layers lamin & screw att to beads—joints fin	UL Des 14-3 hr (f)	69	d-1738	12

2-HOUR RATED APPLICATIONS

2 hrs.	Gypsum Lath & Plaster Fireprfg—⅜" perf ROCKLATH pl base—1⅜" 100:2-100:3 gypsum sand plaster	GA-NBS-351 (f)	100	d-1718	13
2 hrs.	Metal Lath & Plaster Fireprfg—3.4# sf met lath wrapped around col—1" 100:2-100:3 gypsum perlite plaster	UL Des 2-2 hr (f)	85	d-1708	14
2 hrs.	Gypsum Drywall Fireprfg—½" SHEETROCK FIRECODE "C" wallbd around col—double layer over ea flange end—double layer on flange faces separ by USG #158 met studs & screw att—met beads on corners—joints fin	UL Des 10-2 hr (f)	37	d-1738	15
2 hrs.	PYROBAR Gypsum Tile Fireprfg—3" hollow—unplastered wt 11	BMS-92 table 40 (f)	112	d-1728	16
2 hrs.	PYROBAR Gypsum Tile Fireprfg—2" solid—unplastered wt 11	BMS-92 table 40 (f)	114	d-1728	17

1-HOUR RATED APPLICATIONS

1 hr.	Gypsum Lath & Plaster Fireprfg—⅜" perf ROCKLATH pl base—½" 100:2½ gypsum sand plaster	GA-NBS-273 (f)	76	d-1718	18
1 hr.	Metal Lath & Plaster Fireprfg—3.4# dm met lath wrapped around col—¾" 100:2-100:3 gypsum sand plaster	BMS-92 table 40 (f)	80	d-1708	19

beam fireproofing

4 hrs.	Metal Lath & Plaster Caged Beam Fireprfg—3.4# sf dm met lath enclosing beam—1½" 100:2 gypsum perlite plaster UL 40 U18.16	UL Des 8-4 hr (f) (Beam 4 hrs)	99	b-1488	20
3 hrs.	Metal Lath & Plaster Caged Beam Fireprfg—9 ga galv wire wrapped around beam 18" o.c. bent over bottom flange—3.4# sf dm met lath—⅞" mill formulated gypsum plaster UL 40 U18.3 (Type S)	UL Des 10-2 hr (f) (Beam 3 hrs)	84	b-1488	21
2 hrs. (beam only)	Gypsum Drywall Caged Beam Fireprfg—1⅝" USG met run chan brackets 24" o.c.—2"x1" corner angles att to chan brackets—dbl layer ⅝" SHEETROCK FIRECODE gypsum wallbd att with Type S screws—met beads on corners—joints fin—2½" conc deck on fluted stl flr	UL Des 254-2 hr (f) UL Des 255-2 hr (f)	91	b-1498	22

(See Ceiling Systems Folders Nos. b-1488, b-1498, b-1548, b-1558, b-1568 for protection of beams, girders, and trusses by suspended ceiling constructions)

construction selector

exterior walls & furring e

	description	relative cost index	comments	folder reference
1	Wood furring strips 16″ o.c., Insulating ROCKLATH,* ½″ sanded basecoat plaster, lime putty finish	138	Direct attachment by means of furring does not isolate the surface membrane from structural stresses	a-1368
2	Wood furring strips 16″ o.c., ½″ Insulating SHEETROCK*, U.S.G. Joint Treatment	100	Does not isolate the surface membrane from structural stresses; good vapor barrier	a-1398
3	USG Metal Furring Channels 24″ o.c. ½″ Insulating SHEETROCK screw attached, U.S.G. Joint Treatment	82	Direct attachment by furring does not isolate surface from structural stresses. No limiting height	e-1778
4	RC-1 Furring Channels 24″ o.c., ½″ Insulating SHEETROCK screw attached, U.S.G. Joint Treatment	101	Resiliency of the RC-1 furring channel reduces transfer of structural stresses to surface membrane	a-1408
5	R-5 Resilient Clips 16″ o.c., Insulating ROCKLATH and BRIDJOINT* Clips, ½″ sanded basecoat, lime putty	141	Resiliency of the R-5 Clip will reduce the transfer of structural stresses to surface membrane	a-1158
6	¾″ C.R. Channels 16″ o.c., crossbraced, 3.4# d.m. metal lath, ⅝″ sanded basecoat plaster, lime putty finish	203	No vapor barrier; isolation adequate	a-1028
7	¾″ C.R. Channels 16″ o.c., cross braced, ⅜″ Insulating ROCKLATH and BRACE-TITE* Clips, ½″ sanded basecoat plaster, lime putty finish	185	Isolation adequate; good vapor barrier	a-1038
8	⅜″ Long Length Insulating ROCKLATH, supported by ¾″ horizontal channels 36″ o.c., ¾″ sanded basecoat plaster, lime putty finish	203	Limited to 12′ ceiling height. Control joints should be used 20′ o.c.	a-1038
9	USG Metal Furring Channels 16″ o.c., ½″ Insulating IMPERIAL plaster base screw attached, 1/16″ IMPERIAL veneer plaster finish	115	May be attached direct or additionally furred out on ¾″ horiz. C. R. channels; good vapor barrier	a-1148
10	USG Metal Furring Channels 24″ o.c., ⅜″ Insulating ROCKLATH screw attached, ½″ sanded basecoat plaster, lime putty finish	140	Does not isolate surface from structural stresses. No limiting height	a-1198
11	TRUSSTEEL* Studs 16″ o.c. cross braced 4′ o.c. on back chord, ⅜″ Insulating ROCKLATH attached with TL-1 Clips, ½″ sanded basecoat plaster, lime putty finish	185	Free standing; allows for pipe chase clearance; good vapor barrier	a-1188
12	TRUSSTEEL Studs 16″ o.c. cross braced 4′ o.c. on back chord, 3.4# diamond mesh metal lath, ⅝″ sanded basecoat plaster, lime putty finish coat	203	Free standing; allows for pipe chase clearance; no vapor barrier	a-1178
13	3⅝″ USG Metal Studs 24″ o.c., ½″ Insulating SHEETROCK, U.S.G. Joint Treatment	155	Free standing; allows for pipe chase clearance; 9′ limiting height; good vapor barrier	a-1208
14	3⅝″ USG Metal Studs 16″ o.c., ⅜″ Insul. ROCKLATH screw attached, ½″ basecoat plaster, lime putty finish	175	Free standing furring; allows for pipe chase clearance; 9′ limiting height; good vapor barrier	a-1198
15	Either 1½″ (1) polystyrene or (2) urethane rigid plastic foam insulation, bonded to masonry wall, ½″ SHEETROCK bonded to rigid foam, joints treated	(1) 164-167 (2) 173	Excellent insulation and moisture barrier characteristics. No pipe chase capacity.	e-1788
16	ARMORWEAVE Expanded Metal Fascia Walls	—	Carbon steel or aluminum mesh grid for sunshading or screening exterior walls; also balcony railings	e-1818
17	ORIENTAL* Exterior Stucco Wall Finish System	—	Applied over portland cement-lime basecoat direct to sheathing	e-1798
18	USG Metal Stud Curtain Walls	—	Masonry or stucco exterior, drywall or plaster interior	e-1828

construction selector

product catalogs f

title	folder reference
Gypsum Plasters — Basecoat, finish coat, gauging, ornamental, acoustical, and special plasters; finishing limes; general plastering specs.	f-1858
Plaster Bases & Accessories — Gypsum and metal lath; gypsum partition tile; corner and casing beads, screeds, metal trim, control joints, clips, runners, metal base, metal studs, furring channels, brackets, partition terminals; general lathing specs.	f-1868
Gypsum Wallboard & Accessories — Wallboards, coreboard, studs and ribs, backing boards; corner beads, metal trim, moldings, channel, runners, brackets, metal base, control joint; screws, nails, adhesives; erection specs for board and accessories.	f-1878
Drywall Joint Treatment Products — Reinforcing tape, joint compounds, laminating adhesives; application specs.	f-1888
Sheathing Products — Gypsum sheathing; wood fiber insulating sheathing; attachment specs.	f-1898

title	folder reference
Insulating Wool Products — Insulating and sound attenuation blankets; perimeter insulation; blowing and pouring wool; Installed Resistance ratings; application specs.	f-1908
Paint Products — Interior flats, enamels; exterior and floor paints; masonry coatings; stains, varnishes; texture finishes; sealers, primers, undercoat, block filler; epoxy and metal coatings; industrial finishes; preparation and application specs.	f-1918
Sound Control Products — Mineral tile and panels; air distribution system components; acoustical space units; wood fiber tile; metal pan ceiling units; asbestos ceiling board; metal accessories; material and installation specs.	f-1928
Asphalt Roofing Products — 235-lb. to 300-lb. strip and specialty shingles; self-sealing shingles; descriptions of 24 built-up roofing assemblies (West only); UL label classifications; inspection and installation specs.	f-1938
Limes for Masonry Mortars — Air entraining and mason's lime; hydrated lime; mason's quicklime; proportioning and workmanship specs.	f-1948

U. S. G. products—specification standards

The listings below contain existing Standard Specifications, classified as Federal, Army, Navy, Treasury, etc., which apply to U.S.G. materials. Where ASTM, local codes, etc. require product variance, consult your U.S.G. representative. The symbol "WC" after a product listing denotes that U.S.G. is on the government list of those companies willing to certify that their products meet that specification. See pertinent U.S.G. Product Catalog for additional information.

PRODUCT	FEDERAL SPECIFICATION	ASTM DESIGNATION
PLASTER		
RED TOP* gypsum plaster (WC)	SS-P-402 type N	C28—gypsum neat plaster
RED TOP wood fiber plaster (WC)	SS-P-402 type W	C28—gypsum wood fiber
STRUCTO-LITE* plaster	non-applicable	C28—gypsum ready mix plaster
Perlite aggregate	non-applicable	C35
RED TOP gauging plaster (WC)	SS-P-402 type G	C28—gypsum gauging for finish coat
RED TOP molding plaster	SS-P-402 type G	C28—gypsum gauging for finish coat
RED TOP keenes cement regular (WC)	SS-P-00410 type I	C61
quick trowel	SS-P-00410 type II	C61
STRUCTO-GAUGE* plaster	SS-P-402 type G	C28—gypsum gauging for finish coat
STRUCTO-BASE* plaster	SS-P-402 type N with added req. of dry compressive strength not less than 2800 PSI.	C28—gypsum neat plaster
HI-LITE* acoustical plaster-stippled	SS-A-111 type I class h to p class gg to oo	
stippled-perforated	SS-A-111 type I class i to p class gg to oo	
AUDICOTE* acoustical plaster	SS-A-111 type I class i to p class hh to oo type II class i to p class hh to oo	
GYPSUM LATHING		
ROCKLATH* plaster base—⅜" & ½"	SS-L-30c type 1, grades R and X, class 1, forms (a) (b) and (c), styles 1, 2 and 5	C37
IMPERIAL* plaster base—½" & ⅝"	SS-L-30c type 1, grades R and X, class 1, style 1	
RED TOP Radiant Heat plaster base—½" & ⅝"	SS-L-30c type 1, grades R and X, class 1, style 1 (in type III size)	
PYROBAR* partition tile		
(WC)	SS-T-316 or SS-T-00316a	C52
SHEETROCK* gypsum wallboard		
(plain) (insulating)	SS-L-30c	C36
square edge (WC)	type III grade R class 1	C36
tapered edge (WC)	type III grade R class 1	C36
bevel edge (WC)	type III grade R class 1	C36
½" FIRECODE*	type III grade X class 1	C36
½" & ⅝" FIRECODE "C"	type III grade X class 1	C36
predecorated ULTRAWALL*	type III grade R class 3	C36
TEXTONE* vinyl covered	type III grade R or X cl. 3	C36
BAXBORD* backing board	type IV grade R or X cl. 1	C442
SHEATHING		
FIRECODE* gypsum sheathing	SS-L-30b type Z SS-S-276	C79
USG wood fiber insulating sheathing	LLL-I-535 class e	C208 class e

PRODUCT	FEDERAL SPECIFICATION	ASTM DESIGNATION
LIME		
RED TOP and GRAND PRIZE* finish lime	SS-L-351 type F (including added requirement of not more than 8% unhydrated oxides)	C6 type N
IVORY finish lime		C206 type S
RED TOP masons hydrate	SS-L-351 type M (including added requirement of not more than 8% unhydrated oxides)	C207 type N
MORTASEAL* masons lime		C207 type S
RED TOP and CHESHIRE quicklime	SS-Q-351 type C	C5
RED TOP quicklime	SS-Q-351 type M	C5
METAL LATHING		
Bases, metal: (for) plaster, lath and stucco constr. (WC) 3.4# galv. diamond mesh lath, 2.5# and 3.4# c.a. ptd.; ⅛" 4-mesh z-riblath 2.75# and 3.4#; ⅜" riblath 3.4# and 4.0#	QQ-L-101a type F (flat dia. mesh) type SF (self furring dia. mesh) type FR (⅛" flat rib) type F⅜R (⅜" rib)	non-applicable
hanger wire—tie wire	QQ-W-461 f finish 5 class 1 (1006 type steel)	
MINERAL FIBER INSULATION		
THERMAFIBER* open face batt (membrane facing one side)	HH-1-521C type I class B	none
blanket batt (with enveloping membranes)	HH-1-521C type I class C	none
blowing wool	HH-I-1030 type I cl. A	none
pouring wool	HH-I-1030 type II cl. A	none
sound attenuation blanket	HH-1-521C type I class A	none
USG perimeter insulation	HH-1-542 type II HH-1-562 type I cl. 2 HH-1-563 type II cl. D HH-1-564 class A & B form 1 & 2	C378 non-load bearing C392 class 1
ACOUSTICAL UNITS—PREFABRICATED		
ACOUSTONE* "F" MOTIF'D* ACOUSTONE AIRSON* ACOUSTONE AURATONE*	SS-S-00118 (GSA-FSS) type III class 25	E-84-61T
PERFATONE*	SS-S-00118 (GSA-FSS) type V class 25	E-84-61T
AUDITONE*	SS-S-00118 (GSA-FSS) type I class 200 & 75	
METAL GRATING		
GRATE-X* grating 3.0-3.14-4.0-4.27#	MIL-G-18015s MIL-M & 17194C	non-applicable
GRIP STRUT* grating selected styles	RR-G-661b type III MIL-G-18015s types I, III, IV	non-applicable

PRODUCT	FEDERAL SPECIFICATION	ASTM DESIGNATION	OTHER NATIONAL
GYPSUM ROOF DECKS			
PYROFILL gypsum fiber concrete	(C.E. 219)	C317 material	ASA std.
SHEETROCK formboards	SS-L-30b type v	C318 material	—
USG insulation formboards	LLL-I-535	C208 class A	
USG min. fiber formboards	SS-A-118b cl. A	—	—
	HH-I-564 type II	—	—
USG ¼" asbestos formboard sheets, flat	SS-B-755 type u only	—	—
USG 2" metal edge gypsum plank—precast	SS-S-439 type 1	C-377 type 2	—

(continued)

*Reg. U.S. Pat. Off.

U.S.G. products—specification standards (continued)

PRODUCT	FEDERAL SPECIFICATION	ASTM DESIGNATION
INSULATION BOARDS		
USG sound deadening board wood fiber mineral fiber	LLL-I-535 class A	C208 class A non-comb. class A
USG roof insulation	LLL-I-535 class C	C208 class C
QUIETONE* ceiling panels wood fiber mineral fiber	SS-A-118b class C SS-A-118b class A	none E84-61 class 1
METAL DRYWALL ACCESSORIES		
USG electro-galv. studs and runners, furring channels, RC-1 resilient channels	QQS-698	A366 (base metal)
USG hot-dipped studs and runners, furring channels, RC-1 resilient channels	QQS-775c	A525
Metal corner beads and trim	QQS-775c class E	A525

PRODUCT	FEDERAL SPECIFICATION	ASTM DESIGNATION
ROOFING		
FORTIFIED*-300, Square Butt, Giant Strip shingles	SS-S-300 type II	D225 type II
SEALCO* shingles	SS-S-300 type III	D225 type I
FIRECODE* A-25 shingles	SS-S-294a	
USG asphalt sat. felts	HH-R-595 type II cl. I & II	DD226
USG asbestos felt	HH-F-185 type I class A	D250
ADAMANT* cap roll roofing	SS-R-630	D249
SEL-VI-LAP* roll roofing	SS-R-630	D371
IMPERIAL* roll roofing	SS-R-501a class B	D225
SUPER-TITE* roofing asphalt standard grade	SS-A-666 type II class A grade 2	D312 type II
JOINT TREATMENT		
USG, PERF-A-TAPE* & DURABOND* joint compounds	SS-J-570a type I	C474 & C475
PERF-A-TAPE reinf. tape	SS-J-570a type II	
Compound & tape combined	SS-J-570a type III	

*Reg. U.S. Pat. Off.

NOTE: Since methods and conditions of application and use are beyond the control of the United States Gypsum Company, its warranties of FITNESS and MERCHANTABILITY as well as any other warranties, express or implied, made in connection with the sale of these products, SHALL NOT BE EFFECTIVE OR ACTIONABLE UNLESS the products are applied according to United States Gypsum Company's directions and specifications.

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